TRANSACTIONS

OF THE

Massachusetts Horticultural Society,

FOR THE YEAR 1875.

PART I.

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TOLMAN & WHITE, PRINTERS, 383 WASHINGTON STREET.
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BUSINESS MEETING.

SATURDAY, January 2, 1875.

A stated meeting of the Society was holden at 11 o'clock, according to notification.

The meeting was called to order by WILLIAM C. STRONG, the retiring President, who reviewed the progress of the Society for the past four years, in the following address:

ADDRESS OF PRESIDENT WILLIAM C. STRONG.

Members of the Society: —

I cannot leave the position, which by your kindness I have occupied for the past four years, without expressing my deep sense of gratitude for the honor of this relation and for the entire harmony and uniform courtesy which have characterized our proceedings, and which have combined to render the duties of presiding officer both easy and agreeable.

During this time we have witnessed no marked events, no great changes in our history. Like Nature's type, ours has been a uniform, imperceptible, but constant, and consequently we may believe a most healthy growth.

In the course of nature, we have lost several esteemed and active members, of whose memory we have made suitable record,

in our published transactions. But notwithstanding this loss our roll of membership is steadily increasing. Our Library has not only been increased by valuable and costly additions, but is also coming into more general use and is attaining recognition as a valuable privilege of membership. Our exhibitions have been vigorous and well-sustained, and the exhaustion of the largely increased appropriations for prizes indicates a constant growth in this direction. The novel exhibition of Rhododendrons on the Common and also the reception of the National Pomological Society in the year 1873, had an undoubted tendency to extend our influence both at home and abroad.

As a natural sport from the normal type of growth, in our work, we may mark, as most noticeable, the establishment of a standing Committee on Discussions and Publications, and also of an Editor's chair. Here, in my judgment, we have entered upon a rich and most promising field. Here we may with reason expect to bring to light and record the various experience of our skilful cultivators in all departments of our art. But beyond this we surely ought to aim to make this the channel for the publication of the investigations and discoveries of men of science, in all matters pertaining to horticulture, botany, and vegetable physiology. In no other way can the society so widely and so permanently increase its influence and its usefulness as by encouraging investigation and stimulating the talent within its ranks. We must not be discouraged if the immediate returns are meagre. The field must be ploughed and enriched, but rest assured the harvest will be an hundred fold. I deem it fortunate that we have secured for the office of editor one who inherits a fitness for his work and who, in the first volume of our published discussions, has given auspicious proof that the work is well begun. Shall we not individually pledge ourselves each to promote this endeavor and so insure the result that all our members shall esteem it an honor and a privilege to be enrolled on our list.

In this connection, you will allow me to suggest the desirability of bringing our entire membership together on some stated occasions, for the purpose of unifying and vivifying the society as a distinct organization. This might be accomplished by an annual festival in our own home, the members being admitted by tickets placed at such a moderate price as would be within the reach of all. The older members, who are present, will recall the notable triennial

festivals held in Faneuil Hall and elsewhere, at which the whole membership and distinguished invited guests were accustomed to assemble. We might make in our new place a more modest yearly harvest-home gathering, which would in an eminent degree conduce to good fellowship and to awaken public interest in our work.

It is true that annual festivals have been heretofore provided for those of the society who have carried the laboring oar. The society ever has been and should be ready to recognize and reward service, and beyond this it is clear that these festivities are joyous and useful occasions. But it cannot be denied that they are open to the charge of exclusiveness — a charge from which we suffer more than most of us are aware. Add to this the fact that these festivities are an increasing and a very considerable expense to the society, and it becomes a question in which we are alike concerned, whether the best interests of the society require some modification of our present custom. It is not my province to indicate future action, yet I am confident that every suggestion which is prompted by the desire for the increased influence and the welfare of our society will meet a favorable consideration.

And now, fellow members, in leaving my official position, once more to join the ranks and to compete with you for the prize of excellence and combine with you to advance our standard, it is with peculiar pleasure that I yield this chair to a personal friend, one who has so successfully and repeatedly distanced me at your exhibitions, who, having won wreaths of laurel all along the field of literature, can give us happy assurance that he will add fresh garlands in this field of Nature. That the interests of the society may abundantly prosper in his hands, let us see to it that our part is well done.

Mr. Strong then introduced to the Society the President elect, Francis Parkman, who, on taking the chair, delivered the annual address, as follows:

Address of President Francis Parkman.

Ladies and Gentlemen of the Horticultural Society: —

In entering upon the duties to which you have done me the honor to call me, I feel that I am fortunate not only in the expression of your confidence, but also in the nature of

the office you have conferred. You have placed me at the head of a society whose sole aim is the promotion of that gracious art which, through all time, has been the companion and the symbol of peace; an art joined in closest ties with Nature, and her helper in the daily miracle by which she works beauty out of foulness and life out of corruption; an art so tranquillizing and so benign; so rich in consolations and pleasures; and one, too, which appeals to all mankind and finds votaries among rich and poor, learned and simple alike. Let us be grateful to the three deities who preside over these halls, and let us not fail to yield them a fitting homage. Horticulture, which in their serene and graceful trinity they combine to represent, is not one of the mechanic arts. It is an art based on a science, or on several sciences. When pursued in its highest sense and to its best results, it demands the exercise of a great variety of faculties, and gives scope to a high degree of mental activity. On the other side of the Atlantic, horticulture as a profession stands to-day in a position of eminence. It has proved an avenue to social consideration and public honor. Ability, energy, and self-knowledge can lead men to distinction by the pathways of the garden as well as by the dusty road of what are rather invidiously called the learned professions. Not only England, but Belgium and France have had their Sir Joseph Paxtons; men held in high esteem for scientific attainments and general culture. And this is but natural. Horticulture, broadly pursued, is an education in itself, and no pursuit can surpass it in training the powers of observation and induction. The mind of the true cultivator is always on the alert to detect the working of principles and carry them to their practical application. To read the secrets of Nature and aid her in her beneficent functions is his grateful and ennobling task.

Many years ago, a band of public-spirited men laid the foundations of this society. Its beginnings were feeble; it had its troubles and its storms; but it was in wise and careful hands. It survived the dangers of its infancy, and is now what we see it; not yet, let us hope, in its maturity, but in a robust and vigorous youth, full of promise, if we, its present guardians, will but stand true to it. Perhaps you are not all aware of the extent of the debt we owe to our founders, some

of whom still honor us by their presence; and long may they remain with us. The means of usefulness and influence at the disposal of this society far surpass those of other societies, I will not say in our own country, where horticultural organizations are still young, but in England itself, where the art of gardening has been cultivated so long and so successfully. Thanks to the generosity of our benefactors, and the skill and foresight of those who formed and guided us, we are in possession of a large funded property, yielding an ample revenue; while the Royal Horticultural Society of London, which has accomplished so much, has no fund for its support, and depends on the yearly assessment of its members. Under the faithful and able administration of those to whose keeping it is entrusted, the property of our society increases steadily, and with it, its means of answering the intentions of its founders and the just expectations of the public.

Now, with all these resources, what has the society done? The society has done a great deal. None other in the country has done more, — perhaps none has done so much, — to kindle and to gratify horticultural tastes, and this by influences both direct and indirect; for it has become the parent of many local societies, each a centre of influence. Not only has it diffused the love of fruits, flowers, and gardens, but it has exercised an elevating influence on horticulture as a profession; for commercial gardening has this great advantage over most other forms of trade, that in it the love of art is married to the pursuit of profit, and this love of gardening for its own sake, as well as for what it will bring, has received a powerful stimulus in these halls. Witness the increasing zeal for the importation and production of new varieties, and the increasing emulation in the display of well-grown specimens which our exhibitions constantly evince. We have done much; but far more remains to do. The great resources in our hands, used with a judicious and discriminating liberality, will secure for us in American horticulture a preëminent place of honor and influence. Our numbers are great, but it is not our numbers; our wealth is great, but it is not our wealth alone that can lift us to the height of our possible destiny. It is the spirit in which our means are used, and the wisdom that guides us in their use. The great function of this society is to recognize and to requite with honor and profit every

form of horticultural merit according to its nature and degree. It cannot be too deeply felt that in the establishment of prizes and their distribution, a task is assigned us, more and more difficult and more and more responsible.

American horticulture labors no doubt under some disadvantages. It shares the tendency which belongs to all our democratic civilization to diffuse itself widely without rising very high. It is for us to strive by every means to break that barren routine and repetition into which it is so much inclined to fall; to wean the cultivator from beaten tracks and teach him that eminence in special cultures, and not a feeble mediocrity in all, is the best condition of his enjoyment and his success. Nor will this tend to narrow him; for he who has mastered completely one branch of cultivation, has gained the knowledge and the skill to master all the rest.

Above all, let it be remembered that ours is a position of responsibility. Those who endowed us, and those who labored for us in the past, have left us a trust to administer. Ours is a mission, not narrow and personal, but generous and broad. The public has claims upon us, and let us answer them in full.

One regret mingles with the feelings with which I address you. It would have been better for us all if the honored citizen and bountiful friend of the society, whom you first chose as your president, were standing to-day in my place. But the engrossing cares of a crowded life forbade Mr. Hunnewell to accept a position, which, grateful and honorable as it is, is not without its perplexities. As for me, while lamenting with you our common loss, I can only say that what strength I have will be employed with a single view to the interests of the society, and the art of which it is the exponent and the patron.

Voted, That the thanks of the Society be presented to William C. Strong for valuable services rendered during his administration; and that a committee of three be appointed to procure and present to Mr. Strong a suitable testimonial.

The chair appointed Marshall P. Wilder, Edward S. Rand, Jr. and Charles O. Whitmore, as that committee.

Marshall P. Wilder, from the committee to confer with H. Weld Fuller, in regard to his resignation of the chairmanship of the Committee on Ornamental Gardening, reported that other engagements would prevent him from continuing in that position.

Voted, That the thanks of the society be presented to Henry Weld Fuller, for his able and valuable services, extending over many years, as Chairman of the Garden Committee, of which his reports, published in the Transactions of the Society, present ample evidence; and that the society deeply regret the necessity which demands his resignation.

The secretary announced a vacancy in the Garden Committee and one in the Library Committee. Robert Manning and John G. Barker, were appointed a committee to nominate candidates to fill these vacancies.

Marshall P. Wilder and Benjamin G. Smith were appointed a committee to nominate an editor for the current year. The committee reported the name of Robert Manning, who was unanimously elected.

The several sums recommended by the Executive Committee for prizes for the current year, were, on motion, appropriated as follows:

For Plants and Flowers, ...	$2,800 00
Fruits, ...	2,100 00
Vegetables, ...	1,200 00
Gardens and Greenhouses, ...	300 00

On motion of Charles O. Whitmore, the sum of three hundred dollars was appropriated for the increase of the library during the present year.

Voted, That a committee, of which the president shall be chairman, be appointed with full powers to take such action in the matter of petitioning the legislature for the enactment of a statute for the prevention of the increase of noxious insects, and to act in the premises in connection with the State Board of Agriculture, after conference with the various agricultural and horticultural societies in the state, as shall seem expedient.

The chair appointed as that committee, John B. Moore, Benjamin G. Smith, William H. Spooner, and Robert Manning.

The committee appointed to nominate candidates to fill vacancies, reported as follows:

For the vacancy in the Garden Committee, Charles G. Loring, of Boston:

For the vacancy in the Library Committee, E. W. Wood, of Newton, both of whom were unanimously elected.

The Library and Garden Committees were authorized to elect their own chairmen.

Miss Mary T. Saunders, of Salem, was elected to membership.

Adjourned to Saturday, January 9.

BUSINESS MEETING.

Saturday, January 9, 1875.

An adjourned meeting of the society was holden at 11 o'clock, President Parkman in the chair.

Marshall P. Wilder, from the Executive Committee, reported the following list of corresponding members, who were duly elected.

Dr. William Le Baron, Geneva, Ill.
C. C. Langdon, Mobile, Ala.
D. W. Beadle, St. Catharines, Ontario.
W. J. Beal, Lansing, Mich.
George W. Campbell, Delaware, Ohio.
Parker Earle, South Pass, Ill.
George Ellwanger, Rochester, N. Y.
O. B. Hadwen, Worcester, Mass.
Thomas Hogg, New York City.
G. F. B. Leighton, Norfolk, Va.
J. E. Mitchell, Philadelphia.
P. T. Quinn, Newark, N. J.
William Saunders, Washington, D. C.
Robert W. Starr, Cornwallis, Nova Scotia.
P. M. Augur, Middlefield, Conn.
Arthur Bryant, Sr., Princeton, Ill.
Josiah Hoopes, West Chester, Pa.
T. C. Maxwell, Geneva, N. Y.
D. Redmond, Pass Christian, Miss.
Dr. John Stayman, Leavenworth, Kan.
Dr. William M. Howsley, Leavenworth, Kan.
Charles V. Riley, St. Louis, Mo.

Robert W. Furnas, Brownsville, Neb.
Thomas A. Allen, Nebraska.
Dr. Charles C. Hamilton, Cornwallis, Nova Scotia.
Rev. Robert Burnet, Hamilton, Ontario.
William Robinson, London.
Shirley Hibberd, "
William Paul, Waltham Cross, London.
Rev. H. Honywood Dombrain, Ashford, Kent, England.
Rev. S. Reynolds Hole, Newark, England.
Fisher Holmes, London.
Rev. Rushton Radclyffe, London.
B. S. Williams, Holloway, London.
Anthony Waterer, Knapp Hill, Woking, Surrey, England.

Edwin W. Buswell, Treasurer, presented his annual report, which was accepted and referred to the Committee on Publication.

Adjourned to the first Saturday in February.

MEETING FOR DISCUSSION.

Immediately on the adjournment of the business meeting, W. C. Strong, Chairman of the Committee on Publication and Discussion, announced a meeting for discussion on the cultivation of the *Azalea Indica*, to be opened by a paper by Marshall P. Wilder; but before the commencement some debate took place as to the proper officer to preside at the meeting; President Parkman, E. S. Rand, Jr., E. W. Buswell, and others, deeming it a meeting of the Committee on Publication and Discussion, and therefore to be presided over by the chairman of that committee, while Messrs. Strong, Charles M. Hovey, John B. Moore, and others, thought it proper that the President should preside. It was unanimously agreed that the assembly was not a meeting within the meaning of the By-Laws, and that no business could be legally transacted. Mr. Strong took the ground that these public discussions were not to be regarded merely as meetings of a Committee, but rather as of the Society, and that it was the duty of the President, by virtue of his office, to act as presiding officer. On motion of Mr. Strong it

was then voted, with but one dissenting voice, that the President preside.

Mr. Wilder then read his paper as follows:

Cultivation of the Azalea Indica, With special Reference to the Production of New Varieties.

BY MARSHALL P. WILDER.

Perhaps in all the works of Providence, there is nothing more distinct in the procreation of species, than the human race and the vegetable creation. Yet, the same laws which govern animal creation are, in a great measure, applicable to plants. Considering this fact it is remarkable that the hybridization of plants, which places in the hand of man the means of indefinite improvement and increase, is of so recent a date. We know not what progress China had, in the long period of her existence, made in the art of hybridization, but it is a singular fact, that when it was known that the vegetable as well as the animal creation could be joined in wedlock, and that similar results in each were governed by similar laws, the age of progress in this art was deferred so long, even almost to our own time.

Much complaint exists among botanists in regard to the hybridization of plants, as causing confusion — breaking up the natural division of plants by crossing the species — but for my own part, I think that instead of confusing the labors of the botanist it has been the means of more clearly defining these divisions, and has given to the world thousands upon thousands of plants far more beautiful and useful than the types from which they were produced.

The production of new varieties by the artificial crossing of flowers, by which we can blend the best characteristics of each, affords a source of pleasure and interest to which there are no bounds. Although the art of producing new varieties in this way is of comparatively modern origin, it has now become the acknowledged source of improvement, and the best means for the acquisition of new and improved varieties, upon which we are to rely in future for perfection in the vegetable kingdom. This has been my conviction for forty years, and it has influenced me in practising this art. I am, therefore, happy to give to the public any information that I may possess.

It is only about thirty years since much attention has been given

to the production of new varieties of the azalea. But those originated within the last twenty years may now be numbered by thousands; one of my friends in Belgium, having produced more than six hundred named kinds. Belgium, Germany, and England, have given more attention to the production of new varieties than all the rest of the world. And never before has there been more interest or enterprise in this line of cultivation. Every year brings us something desirable, and now that the Japan azaleas (*A. mollis*) are coming to our aid, we may expect even finer results than before. It is quite probable that by the intermixture of the Chinese and this new hardy species we may obtain varieties with persistent foliage. These Japan varieties are believed to be hardy; a plant in the Cambridge Botanic Garden, which came from Japan seed, having stood entirely uninjured for several years without protection. The Chinese varieties are easily crossed by the pollen of the Japan sorts, and I have now a pan of young plants just coming up, which are the result of hybridizations made last spring, between *Azalea Indica* and *A. mollis*.

New varieties are raised by the cross-fertilization of flowers, which produce an abundance of seed. The seed vegetates freely, and with good care will produce fine little plants that in two or three years may be made to bloom, and thus give us early the results of our efforts. The plants which I hold in my hands [Mr. Wilder here exhibited two seedlings which were acknowledged by all to be of remarkable size for their age], are the results of seed produced by the Souvenir de Prince Albert impregnated with the pollen of various other kinds. The seed was sown last winter, and came up in March or April. These plants, as they stand, measure more than a foot in height, and I expect to have them in flower next year. To accomplish this I shall either take off the tops and graft them into strong stocks, or, what is more sure, inarch the tops on to strong stocks. The process of grafting may be either by split grafting or by a side graft, but in these cases the plants should be laid on their sides in a close frame and in very mild heat; or they can be worked by standing the stock upright and slipping over the whole a common glass lamp chimney, stuffing the top with cotton, so as to keep the air close and the graft fresh until a union has taken place, and the graft begins to grow. This is called the "stifled graft," and was introduced some thirty-five years since by the Chevalier Soulange

Bodin, for the propagation of camellias, azaleas, and other hard wooded plants. The *Azalea Phœnicea* has been found to be one of the very best for stocks.

Cuttings are made of half ripened wood, cut smoothly, just below a leaf bud. They may be planted in pans or pots, very thoroughly drained with broken pots, on which should be a covering of moss, cut hay, or spent hops from the brewery, which I have found to be most excellent for drainage. For soil we use two-thirds peat and one-third fine white sand, but they will do equally well in sand alone. As regards temperature, cuttings of the azalea will root in a shady, cool place in the greenhouse. This is, however, a slow process, and the better way is to cover the pots with bell glasses, or, which is still better, to place them in a bed with a mild heat. In this way cuttings root very freely, and in two years, with good care, will make pretty blooming plants.

In the production of new varieties, if you desire white varieties, use white sorts to cross with; if red, then use red; if variegated sorts are desired then impregnate with the pollen of striped or spotted sorts. For this purpose I use a small camel's hair pencil, which I have always in my pocket, taking the pollen from one flower and transferring it to another. The proper time to impregnate the azalea is about three days after the flower is open. At this time the stigma will be well developed, and in such a state as to receive the pollen readily and before the stigma becomes too glutinous.

But we desire to go farther than merely obtaining beautiful varieties, and to make the azalea hardy, so as to stand the open air like the deciduous species, and this I deem quite probable by the varieties which we shall obtain from the crosses of the Japan species. The *Azalea Indica alba* is nearly hardy in England, and has stood in some places for many years without protection. A cross with this and the Japan species would give hopes of success.

Although I have spoken of hybridization as the means of producing new varieties no plant is more given to what is called sporting than the azalea. Some of the very best varieties we have, owe their origin to a freak of nature; that is, to flowers which have departed from the natural type and given flowers of other colors. To these we have given the name of sports. They are perpetuated by grafting from the sporting branch, as I have described in my lecture on hybridization, published in the Transactions of the Society, for 1872.

The seed is gathered in October or November, and kept until January, when it is sown in shallow pans in two-thirds peat and one-third fine sand. When the young plants have attained to the height of two inches, they should be potted off in thumb pots, and placed in a bed of tan or similar substance, where the bottom of the pot will not dry suddenly, near the glass in the shady part of a pit or greenhouse. These pots, as well as those afterwards used, should be most thoroughly drained.

In the treatment of established plants I have drained with pot-sherds, with a covering of cut hay, moss, or spent hops from the brewery, so that the plants might take a full supply of water without the earth becoming sodden and sour. The plants should at all times have a regular supply of water, especially when in flower and while making their growth. I have found that it is well to keep them in the greenhouse until the weather becomes warm outside, so that they may ripen their wood thoroughly. They should then be removed to a cool, shady place, or, if allowed to receive the sun in the middle of the day, they should be plunged in some substance, so as to prevent the roots from becoming injured by the heat of the sun on the pots. Mr. Hunnewell's method is to pile soil around each separate pot, and I have never seen any azaleas in better condition than his. The best season for potting is immediately after the plants have made their growth in the spring, and the best soil is three parts fine old peat and one part fine sand. The azalea may be forced early, and a succession of flowers may be had from December to May, if kept in a cool house until wanted for forcing.

One word in regard to the form of plants. There is a natural form, grace, and beauty which Divine Wisdom has given to every species of plants, and our treatment of them should correspond with that rule of beauty which he has given us for our guide. True there are from some cause often naturally ill formed plants, but these are exceptions to the general rule. In a word, I am not in favor of the modern method of training and tying down of the branches, to make exact spherical, conical, or other geometrical forms. Such are not the natural forms, and I think we should follow nature as closely as we can in the training and pruning of the azalea, only early removing such gross or rambling branches as are necessary to keep the plant within proper bounds. This training of azaleas into geometrical or fantastic forms is just as

unnatural as to train an American elm into a pyramid, or a Norway spruce into a standard with a high stem and a globular head.

Nothing in the line of ornamental plants under glass can surpass the gorgeousness of the azalea, with its rich and varied colors, and it is not probable or perhaps possible that any plant will ever exceed it in beauty. A large conservatory of these plants, when in full bloom, may be truly described as effulgent with beauty and glory.

Charles M. Hovey said that the Azalea had long been a pet of his, and Col. Wilder had given us a fresh reminder of its beauty. Mr. Hovey was one of the first to raise new varieties from seed in this country, having in 1837 or 8 sown a large quantity of seed and produced a great many fine seedlings; among them a white variety which he named *alba crispiflora*, and which he thought scarcely surpassed. Some of the plants then raised are now very large specimens. Fine large plants can only be obtained by grafting. He agreed with Col. Wilder that the formal training, practised by some cultivators is, in a certain sense, unnatural. Still, to produce a well shaped bush we cannot dispense with pruning, and the best formed specimens were made by a combination of tying and pruning. Grafting must be done when the wood is comparatively soft; he had inserted thirty, forty, or fifty grafts into a single plant. Some of these will not be in the right place and will require tying to a certain extent, in order to have the wood equally distributed.

The production of new seedling varieties is of great importance. By hybridizing with *Azalea amœna*, we might get a hardy race, better perhaps than from *A. mollis*, and also an evergreen one, which would be desirable. We cannot do much with *A. ovata*, though a beautiful species and probably hardy. His method had been to winter the seedlings in a cool house and then to plant out in the ground as soon as the weather would admit. He had now two or three thousand plants which can be set out in the ground, and, if taken up in time and properly treated, they will bloom in the greatest profusion.

Like all plants of the Heath family, they require some protection for the roots. They will continue to bloom after being brought into the house. No plants are so quickly injured in the buds by frost; an early frost before the plants were housed, which did not destroy the heliotrope, injured every flower bud of the azaleas,

though the foliage was not touched. The terminal leaves hold the moisture from the dew around the buds.

The point we should aim at in raising seedlings is to get a fine variety with good flower, foliage, habit, etc. Many varieties, when in bloom, are so densely covered with flowers that it is of no consequence that they have no foliage. The plants may be frozen without injury, *if kept dry*, but if wet, the flower buds are done to. The azalea is adapted to every situation, and no lady need fear of failure when growing it in the parlor.

In answer to an inquiry as to the process of grafting, Mr. Hovey said that he takes off the end of a shoot, pares off one side of both scion and stock, and ties on as a side graft. The plant is then laid on its side and covered with a newspaper, or placed in a frame, when, if kept close and warm, they unite and may be removed in six or eight weeks to the house.

Mr. Strong called attention to the growth of the two seedling plants exhibited by Mr. Wilder. He thought there was a tendency to improvement in the culture of plants generally; and that these were illustrations. Mr. Hovey's plan of treating seedlings would dwarf the plants, but he believed it was better to keep them in rapid growth, like those exhibited.

President Parkman remarked that many cultivators of the azalea had been perplexed by the behavior of their young seedlings.

Mr. Hovey said, in reference to Mr. Strong's remarks, that the plants were not sure to be good varieties, and his object was to grow them in a small space until their character was decided. It would require a large house to grow a large quantity, and so much room could not be afforded. The number of seedlings that must be grown to raise superior varieties is very great. Margottin, the great French rose grower, for instance, had five acres of seedling roses, and Mr. Hovey visited an English dahlia raiser who had four acres of seedlings, from which he selected only one single plant in a year that he thought worthy of introduction and a name.

Grafting can be done at any time, but from the 20th of July to the first of September is best. The seed is remarkably fine, and should be sown in sandy loam or sandy peat, with a little of the same over them. It should be protected with a glass laid over the pan, and watered very cautiously. Worms are apt to trouble the

seedlings. As soon as they are large enough to handle, they are pricked out in boxes a foot square, about fifty in a box. The first of June they are potted and put under a whitewashed frame, where they remain, if to be kept in pots, or until the weather is fine for planting out in the ground.

Mr. Wilder said that his method was to sow the seed in broad pans in January or February, and pot when the plants are two inches high, in pots one-third full of drainage. He had petted his plants, which would perhaps account for the size of those exhibited.

John B. Moore enquired whether their large size might not be owing to the habit of the parents. One of the parents, the Souvenir de Prince Albert, is a strong grower, while Mr. Hovey may have used seed of weaker growing kinds.

Mr. Hovey called attention to the fruit of *Chamærops Fortunei* exhibited by him, the spike resembling a very open bunch of very small, round, blue grapes in appearance. This is a Chinese species, remarkable as the hardiest known palm, and Mr. Hovey believed it was destined to be cultivated throughout the United States. The plant was not taken into the house until about six weeks ago, when the thermometer indicated only 12° to 15°, and was then placed in a house when the temperature fell as low as 15°. The plant is diœcious, and Mr. Hovey was fortunate enough to possess both sexes. The flowers are very beautiful, the pistillate flowers of a light yellow color and the staminate ones larger and more showy, of a deep golden yellow. The plant produced three clusters, that shown being the ripest. It was imported fifteen or sixteen years ago, and is now eight feet high. It can be allowed to stand out doors until November, and can be grown by everybody, and is ornamental not only for the fruit, but for its flowers and the fibres around the stem, which present the appearance of being artificial. These are used by the Chinese for making cordage. The tree can be placed on the lawn from the first of April to the first of December, and Mr. Hovey intends, as soon as he has a sufficient number, to try it out doors through the winter with a slight protection of straw.

J. H. Woodford asked whether the hardiness of the species would be increased by sowing these seeds in the open ground and allowing them to remain there through the winter.

Mr. Hovey replied that the suggestion had been made before in regard to the *Araucaria imbricata*, and that there was some show of truth in the theory. These seeds will be as likely to produce hardy progeny as those from its native habitat, and perhaps more so.

Mr. Strong hoped that the subject of the effect of climate and selection on the hardiness of plants might come up for discussion at some future time.

James Cruickshanks said that he had seen the first *Araucaria imbricata* introduced into Great Britain, at the Botanic Garden at Edinburgh, where Mr. McNab, the curator, had also from thirty to thirty-five specimens six feet high, which were only protected by placing a mat over them.

Mr. Wilder said that at Elvaston Castle four hundred *Araucarias* had been planted, but when he was there, in 1867, they had diminished to twenty or twenty-five. They had then been planted about twenty years.

E. S. Rand, Jr., spoke of the *Phalœnopsis amabilis* exhibited by him, a rare orchid known as the East Indian Butterfly Plant, being a native of the islands of the Indian Archipelago, where it grows upon the branches of trees, to which it clings by its thick fleshy roots. It is a true epiphyte, being wholly sustained by the moisture in the air. The foliage is dark glossy green, the flowers pure white, with pink tendril-like antennæ from the centre. The specimen on exhibition was remarkably fine; there were three flower stalks with twenty-one fully expanded flowers and many buds. The flowers measured three and a half inches in diameter. It would be hard to find a more exquisitely beautiful flower, whether we regard the purity of color or the grace and elegance of the long racemes of bloom. It is very rare to find a plant of such size and so well bloomed; indeed, there are very few plants in this country, and their high cost and the difficulty of importation will forever prevent their becoming common.

Mr. Hovey remarked on two very beautiful plants of another orchid, *Lycaste Skinneri*, exhibited by James Cartwright. This species is not often seen; the flowers will last eight weeks when in a cool house where no drip or water can reach them.

The Chairman of the Committee on Discussion announced that next Saturday Benjamin G. Smith would give some account of his experiments to test the hardiness of different varieties of strawberries.

MEETING FOR DISCUSSION.

SATURDAY, January 16, 1875.

The discussion was opened by the reading of the following paper:

HARDINESS OF STRAWBERRIES.

BY BENJAMIN G. SMITH.

Mr. President and Ladies and Gentlemen:

At the request of several of our members, I offer a brief account of my experience, showing the *comparative hardiness of eight varieties of strawberries on clay soil.*

In the cultivation of the strawberry, more or less plants are destroyed during winter in consequence of being thrown out of the ground by the frost, notwithstanding they are covered in the usual manner.

In the spring of 1873, I prepared eight beds of as many varieties. All were treated precisely alike, the ground previously having been thoroughly underdrained; working the soil to the depth of eighteen to twenty inches and adding a compost of leaf mould, well decomposed barnyard manure, and wood ashes, sufficient to cover the ground to the depth of three or four inches. Each bed contained one hundred plants, twelve by fifteen inches apart, of the following varieties: President Wilder, Lady of the Lake, Wilson, Hovey's Seedling, Jucunda, Triomphe de Gand, Charles Downing and Green Prolific. All the above varieties were cultivated in the hill, all the runners being cut off. Last spring, on uncovering the plants, more or less dead ones were discovered. Perhaps it may be of some service to amateur cultivators, if not to others, to know the comparative loss of plants in the different beds. They were all covered with forest leaves and strips of boards placed upon them to prevent blowing off. The loss of plants was as follows:

Jucunda, none; Wilson, two; Triomphe de Gand, four; President Wilder, four; Lady of the Lake, five; Green Prolific, six; Hovey's Seedling, nine; Charles Downing, twenty.

It will be noticed that this experiment was on a strong clay soil, not a sandy loam. No advantage was found in hill culture, ex-

cept with Jucunda and Triomphe de Gand. The old foliage was all cut off after fruiting, and during the growing season I was careful to keep the beds free from weeds and moist during the dry weather of June. In the early part of June they were mulched with fine grass clippings from the lawn; this I consider an excellent material for the purpose, as it is wholly free from seeds, which, in other kinds of hay and straw, often prove troublesome by propagating weeds or grass in the beds.

Mr. Smith added that the result of his experiments was that his Jucundas took the first prize for the best four quarts of any variety.

John B. Moore remarked that, as Mr. Smith had said, this test was confined to a clay soil, and therefore was not a criterion for varieties adapted to a sandy soil. Charles Downing, for instance, succeeds only on light soil, and in such soils the number destroyed would be much less than in Mr. Smith's experiment. The Jucunda, President Wilder, and Triomphe de Gand are best adapted to heavy soils. The treatment of cutting off the runners should not be applied to varieties which, like Hovey's Seedling, throw up but one fruit stem. In an observation of twenty-five years, Mr. Moore had never seen more than a single fruit stem on a plant of that variety. The President Wilder produces two fruit stalks. He doubted whether a great quantity of stable manure was beneficial to the strawberry. On his land he had found vegetable matter, such as peat composted with ashes, much better. He also doubted whether liquid manure would grow as good strawberries as pure water, if the soil was in good condition. There is no secret in growing strawberries; they will grow in almost any soil, and are not an exhausting crop, for any crop will succeed after them. Every one who has ploughed up an old strawberry bed has noticed that the soil is so mellow as to be difficult to turn over.

Mr. Moore said that he had grown seedlings for many years, but had just found out the best way. If, instead of going to work to hybridize by hand, he had planted a staminate alongside of a pistillate variety, away from any others, the fruit of the pistillate kind would certainly be a hybrid. He now gets plenty of hybrids. He took seed from Rivers' Eliza, a strong growing English variety, and got three hundred seedlings, the same in fruit and habit as the parent, except that some were, perhaps, a little worse. The case was the same with seedlings from the Early Virginia. Of course

in selecting varieties to plant side by side to hybridize, you would choose such as possess the qualities which you desire to combine in your seedlings. Mr. Moore thought it best to wash out the seed as soon as the fruit is ripe, and sow immediately in a cold frame. The plants begin to come up in a very short time, and he covers the glass with boards to protect them during the winter, and plants out in the spring about two feet and a half apart.

Marshall P. Wilder said that it does not make any difference as regards fructification, whether fertilization is performed naturally or by the hand of man. The chances of producing a valuable new variety are far greater under the hands of a scientific practitioner than by the accidental crossing by the wind or insects. Mr. Moore's method of keeping his seedlings over winter is a very good one when they are raised on a large scale. When you wish to raise only a few hundred plants the seed may be sown in pans and afterwards pricked out in pots, and kept in a cool part of the greenhouse till spring. The main point is to be sure and select, as parents, hardy and prolific varieties, with fruit of good size, form, color, and quality, and by doing this we can attain all we desire. Seedlings do not show their characteristics sometimes for several years. They do not become settled. Van Mons mentions this several times. Some which are thought well of depreciate, and others improve. We are told that there is no variety so successful as the Wilson, but we shall have those which add superior quality to the other good points of that variety — perhaps we have them already. In breeding stock for improvement we select the best parents; from the best male and female we are to expect a good result.

President Parkman said that it had been noticed in hybridizing lilies, where there was a moral certainty that there could be no self-fertilization, that a flower was produced precisely like the female parent. Botanists have concluded, from this fact, that the effect of fecundation may continue through two generations.

Mr. Wilder said that he had crossed pistillate strawberries with varieties of the Hautbois, and, though it was impossible that they could have been self-fertilized, the seedlings produced fruit precisely like that of the mother plant. The results of these crosses were not worth perpetuating — they fruited poorly.

Edward S. Rand, Jr., remarked that some of the Hautbois strawberries were valuable as flowering plants.

Mr. Moore said there were certain varieties that would not produce a single fruit if away from others.

Mr. Wilder spoke of the late Nicholas Longworth, of Cincinnati, as one of the first to recognize the sexual character of the strawberry, and of his visiting a garden where there were a large number of pistillate plants, and offering a barrel of wine for a crop of fruit produced by them alone.

William Gray, Jr., read from "Hovey's Magazine" (Vol. xxx., p. 287) an account of his experiments, in 1863 and 4, with several varieties of strawberries, which settled the fact that the large foreign varieties were not adapted to our climate. He found Oscar the largest in size and best in quality of those tested.

Charles M. Hovey said that while most strawberries will grow on all soils some are very fastidious, and instanced the seedlings raised by the late Josiah Richardson, of Cambridge, who exhibited several varieties, apparently of much merit, and whose beds made a great show, but there was never any fruit of these varieties shown by other cultivators, and in three or four years they had all disappeared. President Wilder does not succeed with Mr. Hovey on sandy land, while Jenny Lind likes a light soil; he saw a great crop on such soil in the grounds of Mr. Fay, the originator. La Constante requires clay. Hovey's Seedling succeeds generally, but, being pistillate, requires a fertilizer, and Boston Pine has proved the best for this purpose. If properly fertilized Hovey's Seedling will produce to the very end of July from the tips of the bunches. These late berries being few in number are not gathered, and, decaying on the ground, produce seedlings; hence the only way to keep Hovey's Seedling true is to make a new bed every year. Much of the complaint against Hovey's Seedling is caused by planting seedlings produced in this way, instead of the true variety. The Boston Pine never gives any trouble in this way.

Mr. Hovey referred to an article in the "Transactions of the London Horticultural Society," on the sexuality of strawberries, which was denied by Dr. Lindley, and said that he had gathered wild strawberries on his own ground which were entirely pistillate. The Belgians have raised many new kinds from our improved varieties, while the English have propagated mostly or wholly from the Chilian and Surinam species, gaining very large fruits, such as Admiral Dundas, which grows to three inches in diameter, but is somewhat tender like the parents, and very difficult to keep over

winter here, and the Sir Charles Napier and British Queen, which are also very large, but ripen imperfectly, like the Agriculturist. A staminate variety is perhaps better for general cultivation than a pistillate. In 1836 he set out twelve plants of Hovey's Seedling in an old asparagus bed, in one row twelve feet long, and one foot apart, where it was a little shady. They grew luxuriantly and filled a space twelve feet by three, and he gathered from the bed twelve quarts, besides a great many which were eaten from the bed, and given away. This was at the rate of from 12,000 to 20,000 quarts per acre, but it would be as fallacious to conclude from this limited experiment, that an equal crop could be grown by the acre, as it would because the crop of a single Beurre Diel pear tree had sold for seventy-five dollars to reckon on a whole orchard at the same rate. Strawberries cannot be cultivated to advantage in a hap-hazard way, as with the Jersey cultivators, who get but from fifty to seventy-five bushels per acre. We hope that something may yet be produced better than any we now possess, and Mr. Hovey was glad to see the Cambridge cultivators again in the field.

Mr. Wilder said that he was glad that Mr. Hovey had alluded to the dropping of seed in the bed. It was undoubtedly in this way that the Hovey's Perfect, advertised as a Hovey's Seedling with perfect flowers, was produced. In raising seedlings he had found Hovey's Seedling as good a mother as could be used.

Mr. Rand spoke of the beauty of *Fragaria Indica* for greenhouse cultivation, and especially as a basket plant, bearing lively yellow flowers and brilliant red fruit, which, however, is not eatable, on its hanging runners of more than a foot in length.

President Parkman added that this species has attracted much attention in France and England. It does not survive our winters.

Mr. Moore said that some of the highly praised new varieties are pistillate, such as Champion, Late Prolific, and Green Prolific. He thought that a careful cultivator, who understood the subject, could get a better crop from the pistillates than from the staminates; they do not show as much fruit, but they perfect all. Mr. Moore remarked that Mr. Hovey, in his estimate of the crop from an acre, made no allowance for space occupied by paths.

Mr. Hovey repeated his belief that in the hands of amateurs the staminates would give most satisfaction. The Green Prolific was an old sort. The Shaker or Austin is a tasteless fruit; spec-

imens sent to Mr. Hovey when it was first introduced took fifty-four to a pound. Napoleon III, introduced by him direct from the raiser, is of poor quality and very soft, though large and showy.

Robert Manning stated his belief that Mr. Hovey could not have had the true Napoleon III. As he had tasted that variety it was of the finest quality — nearly, if not quite, equal to Lennig's White. The plant is, however, exceedingly difficult to carry through the winter.

Joseph H. Woodford said that he was an amateur cultivator, and gave his experience with a bed of Jucundas, of which he spaded up all but a strip a foot in width, and applied saltpetre as a fertilizer. The vines grew so vigorously that the fruit was all smothered. He had grown President Wilder and found that they should be allowed to run over the whole ground, and in this way you can get a splendid crop. Jucunda and Triomphe de Gand should be grown in hills. Mr. Woodford emphasized the point that new varieties could surely be produced by planting a staminate variety alongside of a pistillate. He had planted two frames with President Wilder for early fruiting, choosing this variety on account of its stubby growth. He took the runners of the previous year and planted them in the frames in spring. He will give the results of this experiment. He had found the lawn clippings, recommended in Mr. Smith's paper for covering the beds, objectionable, as the grass sticks to the strawberries and fingers in picking.

Mr. Hovey thought that if Mr. Woodford had set his plants in a row as long as from here to New York, so as to give them plenty of room to spread, he would not have got a crop. No fertilizer will produce anything but foliage, and the foliage smothers the fruit. In regard to mulching he adhered to the material suggested by the name of the plant, and used straw, passed through a cutter. He uncovers the beds about the first of April.

Mr. Wilder spoke of the advantage of having strawberries early, and said that to secure them he took a seven light frame, and filled with plants twelve by nine inches apart, keeping the runners cut off. They are now covered with leaves, and he expected to have a bountiful supply a month before we can get them in the open ground.

Mr. Woodford said that he got the information which induced him to try the experiment described, from Charles Garfield, who

has shown fine specimens ripened in frames a month in advance of the regular season.

Mr. Garfield said that he had had only one or two years' experience in cultivating strawberries in this method. The beds were now covered with leaves, and he puts on the frames about the first of March; he does not give strong heat, as the plants do not require it. He waters about every day when the sun is out, putting in hot water so as not to chill the ground. A bed, fourteen feet by six, produced twenty-four quarts, just as good flavored as if grown out doors, which sold for from fifty to sixty cents a box. He waters when in bloom, with weak liquid manure. The ground had been previously well manured; he likes to manure heavily—would like to give his grounds a dressing six inches in thickness.

Mr. Wilder said that his experience in the use of fertilizers had been the same as Mr. Hovey's, though with him they had never produced such extraordinary growth as Mr. Hovey had described.

Mr. Moore said that his remarks in relation to fertilizers had been misunderstood. He thought vegetable manure and ashes better than animal manure. He doubted whether the gentleman who had spoken of a dressing six inches thick realized what that meant; it would require a hundred and seventy cords to the acre to manure at that rate, and he did not think a crop of strawberries would pay for such a quantity at ten dollars a cord. He believed in having the ground rich, and when it is, he thought pure water better than liquid manure. He would not condemn fertilizers. The Wilson does not produce foliage enough to cover the fruit, and is benefited by the application of Peruvian guano. Peat and ashes are cooler than animal manures. A piece of ground just cleared up will produce better strawberries than an old garden.

Mr. Hovey said that he should not like to trust a hired hand to apply guano, but would prefer to do it himself. A quart to a row of Wilson a hundred feet long and six feet wide, or at the rate of an ounce to a square rod would probably benefit it, but as commonly used it tended to promote the growth of leaves rather than of fruit. He goes through his beds and digs in manure between the rows, after the fruit is gathered, to produce plants.

Mr. Wilder said that he had two rows of strawberries, each a hundred feet long, which he directed a son of Erin to manure with guano, and he put on a whole bag, and the result was, as might have been anticipated, that the plants were all killed.

H. Weld Fuller stated that some of the newspapers contained articles of late, raising the question whether or not phosphates and Paris green were poisonous to the ground.

Mr. Rand said that he had found white pine needles an excellent winter covering for his strawberry beds.

Mr. Garfield said that he had sold five hundred dollars' worth of strawberries from a quarter of an acre, and he thought he could afford to manure at the rate which Mr. Moore deemed so extravagant, but land would not need to be manured so heavily every year.

MEETING FOR DISCUSSION.

SATURDAY, January 23, 1875.

The discussion was opened with the following paper on

SHADE TREES.

BY JOHN G. BARKER.

The embellishment of our homes and the grounds surrounding them, is a subject that has often been upon my mind, and although by no means new to any one present, it is one that will bear a few moments' consideration. The taste for such things is perhaps not very strong with many, and thus while the supply of the more needed wants and the gratification of more pressing tastes are attended to, the setting out of trees is put off to a more convenient season. I think that to a great extent, a false opinion prevails that trees do not add much to the value of an estate, if we may judge from the ruthless manner in which they are being cut down in many of our cities; indeed in the city in which I now reside, little regard is paid to them, and it seems to be a sort of understood law that if a tree is wanted out of the way by any one, it is sure to come down; and it is no uncommon thing to see very many of our best trees mutilated by fastening horses to them. In many cases, to facilitate this barbarous treatment of our trees, chains are actually driven in them to fasten the horses to, and I call to mind at this moment some of the finest elms in the city that have

been badly mutilated in this manner. These facts, which have come under my immediate observation, with the additional one that so many houses are built which are left entirely destitute of trees of any kind, have led me to offer a few remarks on this subject.

It is a fact admitted by all persons of taste that trees add to the charms of any location. In summer time they protect it from the scorching rays of the sun, and provide pleasant and cool retreats from the heat, and in winter are of no small value in protecting our homes from the cold and piercing blasts which then prevail. Trees around a house impart a home-like and attractive appearance; houses enough are built, yet how few are the homes adorned by trees. A few maples, elms, lindens, or mountain ashes, with the larch and Norway spruce, and some of our fine shrubs, will render the humblest home an attractive spot. A house with the roses climbing up the piazza in a mass of bloom, some handsome trees around it, its paths clean and neat, the flower beds tastefully arranged, though plainly built and humble, and the whole expense but trifling, speaks volumes to us. It tells us at a glance that home affections dwell there, and think you that the influence of such a home will not be felt, and that at the close of the day when work is over, and those who dwell there sit down to enjoy themselves before the darkness of the night, these pleasant surroundings have no influence over the mind? Yes, they are a constant reminder to us that the Giver of all good has bestowed upon us these beautiful trees to adorn and make our homes happy, and from such a home go forth, as can from no other, those happy influences of mercy and goodness which bring joy to the household and pleasure to all around us.

Perhaps I can do no better than to call your attention very briefly to a few extracts from different journals on this subject. In an article on "Shade Trees by our Roads," in the "Homestead," the writer says, "We could wish that our own people had a little more enthusiasm, especially that the dwellers in our rural districts could drink in enough of the spirit of tree worship, to erect shrines along the highway, where every traveller could offer his devotions. We should like to see these wooden shrines with canopies of living green, sixty feet apart on both sides of every public and private road in the commonwealth." Again the same journal says that "we have already made a good beginning in tree planting, and

some of our cities and villages are well furnished with the best of our ornamental trees. New Haven well deserves its reputation as the 'City of Elms.' Norwich is almost as well favored; and, indeed, there are streets in all our cities that need nothing more in the way of shade trees. Almost all of the river towns have more or less well-grown trees, some of them dating back one hundred years or more." I will venture an extract from another article in the same journal, which speaks in unmistakable language, and as I can certify to the truth of it, having been a resident of Hartford at the time, I have copied so much as pertains to what seems to be a prevailing notion of our day. After speaking of the management of trees in cities, and alluding to the fact that some noble trees had recently been sacrificed in Hartford to the ruling passion of the Court of Common Council to have wide sidewalks, unshaded and unobstructed, it says: "A tree which cannot grow in half a century can be cut down in an hour, and by the time another sultry summer has passed, our people will miss the cooling shade of the forest lords which have bowed to the axe-man's stroke during the present week. We give a short conversation between two of our citizens, which shows the current of public sentiment. 'Fine tree, that,' said A to B, as a couple of Hartford men were passing the glorious old elm that stands in the lower green in Wethersfield, near the brick school-house, and in front of the old Webb place. 'Yes,' said B, 'it is a noble tree; if they had it in Hartford they would cut it down in five minutes.'" Again, in another article,— "Down with the trees. The large elm tree, in front of the old Brace house, on the east side of Main street, just above Arch street, fell this morning with a great crash. The tree is about four feet in diameter at the butt, and was a shade and ornament to the street; the vandals are digging up the walks and destroying the shade trees which many years cannot replace, and Councilman's Herletschek's policy is being carried out. Said he last night in the Council, 'If any pody want trees let 'em moofe out in de coontry, I don't want no trees in de sitewalks.'"

Is not this idea of the Hartford councilman entertained by many of the inhabitants of our cities and towns to-day? It seems to me, Mr. President, that the influence of this society cannot be used to better advantage than in encouraging among our members a new interest in this department of our work. The influence of a few spirited individuals in every town and city would in a

few years make a wonderful change, and instead of seeing as we do now, in many of our towns and cities, only a few trees here and there on the various streets, we should see both sides of the thoroughfares handsomely lined with trees, which would make them attractive to the stranger and pleasanter to ourselves. But how often do we hear people say that it is useless for them to move while others are perfectly indifferent to any improvement. One of the best refutations of this do-nothing doctrine is to be found in New Haven, known as the "City of Elms." Beyond a doubt it is the best shaded city in Connecticut, and I am not sure but the best in the New England States, being known all over the country for the grandeur and magnificence of its trees. And this is all due to a single individual, as much as if he had planted every tree himself. The example of one man inspired the public spirit which has planted and fostered the elms that are the pride of the city and the admiration of the stranger. Now let us enter upon this work with enthusiasm, and we shall soon find that our neighbors are being gradually drawn into our sympathies.

But perhaps some will ask, How shall this be done? I would answer that we need no better example than that given by the Newton Horticultural Society whose members meet during the winter months, on stated evenings at the residences of the members, and discuss these very subjects. Let me allude to just one instance of the influence of this society. While on a visit last autumn to Newton with our esteemed friend, Mr. Ross, in riding through the city we came to one of the school-houses, and much to my surprise and greatly to my gratification, the grounds in front were neatly arranged with beds of flowers, and their appearance showed that they had received good care. Upon expressing great pleasure at this beautiful and unexpected sight, Mr. Ross said, "That is through the influence of our Horticultural Society." Now who can tell what happy influence these flowers have on the minds of the youth who daily meet there in pursuit of knowledge. If we contrast that beautiful school garden, with its handsome trees and lovely flowers, with the surroundings of many of our school-houses, which in winter are skating-ponds, in spring mud-holes, and in summer dust-beds, with not a tree any where near,— I am sure you will exclaim with me, as I in heart said, "God bless the Newton Horticultural Society." Let us all do what we can to get up local societies. It is not necessary to have exhibitions

like those held here, which are visited by many who reside miles away from Boston, and whose business brings them to the city every day. Those held here are sustained much better than can possibly be done by any local society; but we could meet at stated times and discuss such subjects as are of interest to the town or city in which we live.

One word as to what we shall plant, and I will no longer tax your patience. The trees adapted for shade in our streets are few. The American and English elms are favorites, and where they can be protected from the canker worm, which is the only objection, are noble trees and the best adapted of the elms to this purpose. Of maples the rock or sugar maples are best for streets or lawns, and are much sought for, the only objection to them being that they are comparatively slow growers. Aside from this they have no superiors, and are clean, handsome trees. The red and white maple are both good street trees, of rapid growth, and fine symmetrical form, and their autumn hues are unequalled. In speaking of the maples, a writer in one of our journals says that there is a little poetry in "all the colors of the rainbow" as applied to Scottish foliage, even in the zenith of its autumn brilliancy, but here, as every observer knows, especially in the mountainous districts, where sugar maples abound, the expression needs no poetic license. Almost all these colors may be found in this single species, to say nothing of the birches, elms, ashes, and oaks, with their hardly less varied tints. European travellers tell us that it is worth a voyage across the Atlantic to behold the splendors of the ripening foliage of our forests. A visit in the autumn to the thriving village of Maplewood, where the streets are beautifully shaded with very fine specimens of the rock or sugar maple, or indeed any of the towns where this variety is largely used for shade trees, will satisfy you that this is no overdrawn picture. Lindens have been favorites for this purpose, and have been largely used, and in fact in the new town of Linden you may see long rows of them planted through the different streets, which seem to be in a thriving condition. But I should not recommend it for this purpose, as it seems, like the mountain ash, to be subject to the attacks of the borer, and it is not a clean tree. In the village of East Saugus you may see on the inside of a fence, near the railroad station, a row of tulip trees, some eight or ten in number, and I should think forty to

fifty feet high. They are magnificent specimens, and when in flower will well repay any one for the time taken to see them. In an editorial in the "Horticulturist" for 1853, the writer says of this and the *Magnolia acuminata*, that "the whole world does not produce two deciduous trees that surpass them in stateliness and symmetry of form, in ample foliage and superb flowers. But unfortunately both are most difficult to transplant, and especially so at that age and size necessary for a street tree; and neither of them, on this account, can ever be so employed to a considerable extent." For my own use I should choose from sugar or rock maple, red or scarlet maple, and the American or English elm.

As you have already noticed, I have said but little aside from what trees are best adapted for shade on our streets. I hope some gentlemen will give us their experience on subjects akin to this; such as how we shall ornament our gardens, and what is adapted for small places, the best kinds of shrubs, and many other subjects, which, in connection with this, naturally suggest themselves to our minds, and may we not hope that, as there are so many that have practical experience in this branch of horticulture, they will kindly grant us a leaf out of their book, and in so doing give us the information we all need.

Benjamin P. Ware hoped to hear the sycamore leaved maple (*Acer Pseudo-Platanus*) recommended by Mr. Barker. He had found it a rapid grower, making a fine symmetrical head, and valuable as a shade tree.

Mr. Barker replied that it did not succeed with him (at Pine Grove Cemetery, Lynn). Though it grows well during summer, the new growth is killed by the winter.

Mr. Ware said that he had planted it on the sea-shore, and that it had grown finely there, and never winter-killed. He first planted two specimens, which did so well that he ordered several dozen more, which promise to thrive equally well. He also thought highly of the Norway maple for similar situations, for its vigor, hardiness, compact head, holding the leaves late in autumn, and ease of transplanting.

E. W. Buswell planted two sycamore leaved maples twenty years ago in a poor, gravelly soil. They grew with sufficient vigor, and were but slightly injured by the winter.

W. C. Strong had found the sycamore leaved maple apt to be

injured by cold in the winter while in the nursery, but not after they had become established. He would not include the horse chestnut, nor any of the maples, among trees for street planting. He thought there was much force in the objections to trees in city streets, and that great care was needed in city planting, particularly to avoid crowding the trees, so as to shut out the light and air and make the streets muddy. This is especially needful in retentive soils, where the streets are muddy for a long time after a storm, under thick foliaged trees like rock maples. In New Haven, which has been mentioned by the essayist, tree planting in the streets has succeeded, because it has been confined to the elm, which does not produce so dense shade. It behooves us both in street planting and in laying out grounds to recommend sufficient distances. Mr. Strong would plant rock maples and also the Norway maple where the streets are wide enough, and the soil dry enough.

James Cruickshanks had had experience with the sycamore leaved maple, and corroborated what Mr. Barker had said. At Woodlawn Cemetery he had observed that they did well for a year or two and then grew smaller. The tendency to winter-kill is done away with at the sea-shore, if the trees are not so near as to be injured by the spray. Both this and the horse chestnut are too dense for street planting. The elm is the best for this purpose, but they must have room, and you can grow nothing near them. He had measured an elm in Hartford, one hundred and thirty years old, which was thirty-one feet in circumference. Judgment is needed in planting trees in cities, especially in the business portions. A few trees and shrubs will enhance the value of a place more than the same amount expended in any other way. Mr. Cruickshanks thought it would be well to offer a premium for shade and ornamental tree planting.

Charles M. Hovey said that he had been both amused and instructed by what he had heard of the discussion. He did not agree with Mr. Strong in his estimate of the rock maple, and he was surprised that no mention had been made of the silver maple, one of the most desirable trees for shade, of which he (Mr. Hovey) planted a long avenue in 1844. He thought the rock maple the best of all street trees. Instead of making the street muddy they had precisely the opposite effect. Mr. Hovey alluded to a large tree near his own grounds, under which he had often stood for pro-

tection in a shower, and which was planted many years ago. In regard to the distances and thinning of trees, Mr. Hovey mentioned an instance where a neighbor had cut down two out of five large elms, at what appeared to others a great sacrifice, but those left now cover the whole ground, and magnolias and other trees thrive near them. Mr. Hovey opposed the common idea that nothing will grow near elm trees, remarking that they do not root so deeply as many shrubs. He had a row of elm trees 1,100 feet long, and a row of pear trees thriving within fifteen feet, though not as well as if the elm trees were not there. Lilies of the valley thrive under elm trees and bloom abundantly, while under the dense shade of horse chestnuts not even grass will grow. He had seen the sycamore leaved maple flourishing on the sea-shore in Swampscott, and thought it an excellent tree for such exposed places.

Mr. Hovey next spoke of the European linden, alluding to a fine row on Boston Common, the trunks of which were cracked so that on a cold day the hand could be placed in the crack, but when milder the crack became narrower, and during summer was wholly closed. Besides this tendency to crack, an objection to the linden was the aphis with which it is infested, and it was very remarkable that so learned a man as Dr. Hooker supposed the honey-dew caused by the aphis to be an exudation from the tree. Mr. Hovey had planted a row of Scotch elms, silver maples, and lindens, and camellias placed under the lindens became black from exudation of the aphides, which was not the case under the other trees. Until we can get rid of these insects the linden can not be recommended. Otherwise it is a desirable tree.

Mr. Hovey would recommend for street trees the rock maple, but it is difficult to get of good shape, and somewhat difficult to transplant. Next to the rock maple is the silver maple, the wood of which, however, is soft and apt to break in high winds, and the leaves are also somewhat eaten by insects. The Scotch elm resists the canker worm, and grows compactly like the maple. He would recommend the Scotch elm for narrow streets, and the American elm for wide streets, boulevards, and large parks. They should be of uniform shape, though this is difficult to obtain with the American elm, as they run into so many varieties when raised from seed. Although the limbs of the elm grow every way, it is a symmetrical tree. The purple elm and Cornish elm are very

desirable, but as they must be grafted the price in the nursery is higher than of those which can be raised directly from seed.

Mr. Hovey next spoke of the oak, remarking that it is a mistake to think they do not grow as fast as other trees, and referred to a plantation which in ten years grew twice as large as some elms or rock maples in the same time, and although they transplant poorly, in five years the rows were all full. He spoke also of a fastigiate variety of the oak, which, however, is difficult to be had. The oak is a grand tree, but the tulip tree or horse chestnut is preferable in narrow streets.

Mr. Cruickshanks said, in reference to Mr. Hovey's statement that other plants would thrive under elm trees, that he would like to have him dig under an elm tree and see if the ground was not full of roots.

Mr. Hovey admitted that elm trees filled the ground beneath them with roots, but mentioned having tried to dig up some plants of *Lilium superbum* which grew under an elm tree in Plymouth county, and though the ground was so full of roots that he could not get the lilies up, they still grew vigorously there.

Rev. A. B. Muzzey said that if we go on discussing particular trees we shall certainly disagree. There is a lamentable want of shade trees in the streets of our towns and cities, and a surprising indifference to this want among gentlemen of cultivated taste. From the action of our city governments one would think that they had reversed the advice which the Scotch laird gave his son, and desired to be always pulling up a tree. Mr. Muzzey believed that this society might make its influence felt in producing a better state of things. We should be very guarded in our action, but we should see if we cannot do something to encourage the planting of trees. He suggested that a premium should be offered for the best essay on shade trees. In Cambridge, where Mr. Muzzey resides, the sentiment is the same as in Boston, and large trees have been destroyed because they slightly obstructed the sidewalk, but Mr. Muzzey asked whether the shade, the healthiness, and the beauty of the trees were not to be considered, as well as the trouble of taking a step aside. We do not live in this world for utility alone, — beauty is utility. He resided for eight years in Newburyport, and was proud of the trees in that city, the beauty of which was owing in a great measure to a bequest for promoting the production of trees and the improvement of sidewalks.

President Parkman remarked that Mr. Muzzey had touched a subject of very great importance, and one which has engaged the attention of European governments. In many European countries which have been denuded of trees, it is only by very great care that some parts have been preserved in a state of fertility. La Mancha and the valley of the Po are examples, the latter being subject to alternate inundations and droughts.

Mr. Strong agreed with the views expressed by Mr. Muzzey and the President. He did not yield to Mr. Hovey in admiration of the maple, in its place. He wondered that Mr. Hovey should cite a single tree as proof that no dampness was caused by the thick shade of the maple. He knew of rows of maples which had had an exceedingly injurious effect in making the ground damp beneath them, and of rows of horse chestnuts which he should have voted to cut down, if he had lived in the streets where they grew.

Marshall P. Wilder said that he was pleased with Mr. Muzzey's remarks. Countries without trees would become deserts, and he was glad to find a better sentiment than formerly existed, now prevailing, especially in the West, where many towns were offering premiums for forest tree planting. Mr. Wilder referred with commendation to the extensive planting on the line of the Kansas Pacific Railroad, and to the successful planting on the alkaline soils on the Union Pacific Railroad, where, not long since, it was supposed that nothing would grow. It gave him a feeling of pain to see a tree taken down, even when necessary.

John B. Moore said that the streets in Concord, where he resides, were entirely lined with trees. The town chooses a Superintendent of Public Grounds, without salary, but makes an appropriation for the purpose of taking care of the cemeteries and school-house yards. He agreed with Mr. Strong in regard to the maples, and knew of streets which had been made muddy by planting them too closely with maples. He was surprised at Mr. Hovey's statement that the roots of elms do not run deep; he had found the bottoms of cellars filled with them, and had found them in a well twenty-five feet deep. He could grow nothing well under elm trees, but preferred them to any other trees for streets. The rock maple is very beautiful, but they must be planted far enough apart to let in the light and air.

Benjamin G. Smith wished to say a word on the utility of for-

est trees in the winter, derived from experience in his own grounds, which were protected by a belt of evergreens, and where the thermometer ranged five degrees higher than in the grounds of his neighbors in a similar location, but exposed to the wind.

President Parkman said we must regard circumstances in planting. Where forestry has been made a study and a profession, trees are planted only on streets of a certain width, and distances are carefully studied and proportioned to the size of the trees and the width of streets. As remarked by Mr. Moore, trees are often planted too closely,— Elliot street, Jamaica Plain, near Mr. Parkman's residence, was an instance, and every alternate tree was taken out.

Mr. Hovey said in answer to an inquiry as to the cause of the red maple dying at the top, that it was from want of moisture, the species growing naturally in swamps. The borer mentioned in Mr. Barker's paper as injurious to the linden, differs from that infesting the apple tree here. It can be kept down, but not easily. Mr. Hovey accounted for the general propensity to cut down trees as a hereditary trait, caused by the circumstances under which New England was settled. On the prairies a man could look from his door for miles without seeing a tree, and he naturally felt the want of them ; but here the country was thickly wooded, and the traditional Yankee feared an Indian skulking behind every tree. Mr. Hovey said that he had so far inherited this feeling that when he was a boy and had occasion to pass some pine woods, he looked for a robber behind every tree. The early settlers did not want to plant pine trees, but to get rid of them, and that object has been so far accomplished that now we feel the want of them, and have come back to the necessity for planting.

James Cruickshanks spoke of the sanitary benefit of trees, and of the advantage of planting them where, as in certain regions in Egypt, no rain fell from one year's end to another, but after the planting of a large number of trees, from fifteen to eighteen inches of rain fell annually.

The Chairman of the Committee on Discussion announced that next Saturday William Gray, Jr., would read a paper on the general culture of Pelargoniums for bedding, with select lists of the best varieties.

MEETING FOR DISCUSSION.

Saturday, January 30, 1875.

The Chairman of the Committee on Publication and Discussion submitted a code of rules for the government of the meetings, which were unanimously adopted.

Rules of the Meetings for Discussion.

1. An assigned subject shall be first in order, to be opened, as far as may be practicable, by a written essay not exceeding half an hour in length, except by consent of the Committee on Discussions.
2. A public discussion upon the subject of the essay shall follow, each speaker being limited to ten minutes and not speaking more than once, except by express vote of the Society.
3. Contributions on exhibition may be presented and remarks made, each speaker being limited to ten minutes on each specimen.
4. Any new subject having the approval of the Committee on Discussions may be presented, subject to the previous rules.
5. It shall be the duty of the President to enforce these rules.

The essayist to-day was William Gray, Jr., who said that he had intended to read a paper on Geraniums, but a question had arisen as to the proper designation of the plants commonly cultivated under that name. The most sensible thing he had seen on the subject was in the introduction to "A Monograph of the Genus Geranium," by H. C. Andrews, who said that he "should ever place the whole tribe under the title Geranium, regarding every unnecessary increase of genera as the direct road to confusion." Mr. Gray suggested that the society should discuss the subject, and adopt the correct name. He illustrated his remarks on the difficulty of getting up plants of the new tricolor varieties, by specimens in pots exhibited on the table before him. The paper was as follows: —

Pelargoniums, — Their Culture and Varieties.

by william gray, jr.

The subject proposed for discussion to-day is, the Pelargonium, and first I shall take the tricolored section. Whoever can grow

these well will have no difficulty in managing the others; and, I think I might add, all other kinds of plants, requiring, as they do, perfect drainage, pots not too large, and the greatest care in watering; in fact the last point is the critical test of a gardener; a man who can water plants with judgment has little more to learn in his profession.

Tricolors have been in such demand in England that every shoot, as soon as it appeared, has been taken off for striking, and the result is that the parent stock has been enfeebled, and in many cases killed outright; the young plants go through the same process, and, until the supply overtakes the demand, and the price falls, there is no chance of getting them of any strength; in my experience about one-half have died on the voyage here. If they arrive alive they should be shaken out, put into small pots which should be plunged in spent hops, and watered with extreme care until they begin to grow; if you are fortunate, in a year from the time they come you can get one good cutting from each, and these cuttings properly treated will make good plants; the imported plant, from its weakness, and from becoming hard and stunted in its early growth, cannot be depended on to make a good specimen.

In March take the cutting off, strike it in mild bottom heat, and, as soon as rooted, put it in a two-inch pot, to be plunged as before; shift it from time to time by small shifts as the pots get filled with roots; the point can be pinched out when the first shift is made; never let it get a check until it is time to give it rest, which will be about the middle of June, then gradually withhold water to ripen and harden the wood, and about the middle of August shake the roots entirely out, and pot in as small a pot as will hold them without much cramping. The plants are benefited by being out of doors during June, July, and August, but should be kept plunged to prevent evaporation, and sashes should always be put over them in wet weather; care should also be taken that worms cannot get into the pots. Tricolors do not keep their bright color and do well without this season of rest.

For soil I use two parts loam (pieces of sod with the grass just dead when I can get them) in as rough a state as possible, one part thoroughly rotted manure and one of coarse sand. I keep all soil for potting in small heaps, or in ridges about a foot high and eighteen inches wide; it has always seemed to me a mistake, after taking the pains to get the best of the top soil of a pasture for this

purpose, to stack it up, as is often done, four or more feet in height in large compact masses, that it may lose exactly the properties gained by its long exposure to air and light, which give it so much of its value.

Training should begin in the second year, and consists merely in bending down and tying the shoots close to the rim of the pot, and occasionally stopping a gross one; the centre soon fills up, and the foundation of a specimen is laid, which, with but little care, will increase in size year by year. I have found small lead weights, hung to the shoots, an effective way of keeping them down after they have grown beyond the rims of their pots. More care is necessary in tying out bronze and green pelargoniums than the tricolors, as the growth is stronger and more brittle; here again weights are useful; by beginning with light ones, and replacing them by degrees with heavier ones, the branches are gradually brought into place without breaking; another advantage is that all the weights can be removed when plants are wanted for exhibition, and they can be shown without the defacing sticks and ties which often accompany them.

To sum up; in order to have good tricolors it is necessary to start with a strong cutting, to grow it in a night temperature of about 50° in winter, rising to 60° in the daytime by fire heat, and to 75° or higher by sun heat, with plenty of air; to give repeated small shifts; to be careful in watering and training, and to see that it has a rest of a couple of months in each year; the water should be at least as warm as the house, and ten degrees higher will do no harm. The flower buds should always be cut off as soon as they appear.

I can add but little in regard to the other classes; they need more water, rather a stronger and more firmly packed soil, and will do fairly well under treatment that would kill the more delicate tricolors; they should have their annual rest and be shaken out and repotted, but larger shifts are safe for them. The flowering ones should be pinched from time to time, and if a full bloom is required, it will help them much to take off the flower buds until from six weeks to two months before the time at which they are wanted; all pinching of shoots should be stopped at least ten weeks before the plants are required to be in perfection.

The best golden tricolors are,—

Achievement,
Ealing Rival,
E. R. Benyon,
Howarth Ashton,
Lady Cullum,
Lady Sheffield,
Lucy Grieve,
Macbeth,
Miss Batters,
Miss Goring,
Mrs. Dunnett,
Mrs. Grieve,
Mrs. Little,
Mrs. Turner,
Peter Grieve,
Prince of Wales,
Princess of Wales,
Reynolds Hole.

The best silver ones are,—

Eva Fish,
Excellent,
Lady D. Neville,
Lass o' Gowrie,
Mrs. Clutton,
Mrs. Laing,
Princess Beatrice.

The difficulty of getting a flat leaf in this class, from the fact that the green centre grows so much faster than the white edge, has seemed insurmountable; but a plant has been lately sent out by Mr. Morris which is claimed "to be the nearest approach to perfection of any variety yet introduced," and, from seeing it in its young state, I think the claim well founded.

The best Bronzes are,—

Black Douglas,
Chieftain,
Earl of Rosslyn,
Emperor of Brazil,
Marechal McMahon,
Mrs. Harrison Weir,
Mrs. John Lee,
Prince Arthur,
Reine Victoria,
Rev. C. P. Peach,
W. E. Gumbleton,
W. R. Morris.

The flowering Zonals are so numerous that it is difficult to make a selection, but the following are the best that I have tried in their respective sections: —

Round-flowering Scarlets,—

Beauty of Waltham,
Cœur de Lion,
Coleshill,
Congress,
Corsair,
Diana,
Emily Morland,
Hospitalité Suisse,
Incomparable,
Lord Derby,

Lord Mayo,
Majestic,
Mercy Grogan,
Omega,
Orbiculatum,
Rev. A. Newby,
Sir Charles Napier,
Sir John Moore,
Tyersall Rival,
Vanguard,
Vesuvius.

Scarlet shaded with rose,—

Æstival,
Christian Deegin,
Circulator,
Crystal Palace Gem,
E. J. Lowe,
Florence,
Professor Lawson,
Renown.

Scarlet shaded with purple,—

Ianthe,
Madame Mezard,
Peabody,
Shade of Evening,
T. Hammersly.

Salmon Scarlet,—

E. S. Dodwell,
King of Roses,
Paul Brie.

Pink,—

Master Christine,
Mrs. Keeler,
Rose Rendatler.

Salmon,—

Acme,
Albert Grevy,
Gloire de Corbeny,
Mme. Jean Sisley,
Polly King,
President Thiers.

White,—

Mme. F. Hoch,
Mrs. Sach,
White Clipper,
White Princess,
White Wonder.

White with rose centres, the loveliest class grown,—

Alice Spencer,
Madame Werle,
Marguerite Panton,
Miss Gladstone,
Remus,
The Bride.

Of Hybrid Nosegays, which have been making great strides of late, the best Scarlets are,—

Dr. Muret,
Emilio Castelar,
Jessica,
Sunshine,
Wellington.

Rose,—

Caven Fox,
Cherry Lips,
Florence Durand,
Lawrence Heywood,
Mrs. Masters.

Pink,—

Christine Nilsson,
Delight,
Lady Belper,
M. E. Buenzod,
Mrs. F. Burnaby,
Pink May Queen.

It has been questioned whether much further improvement is to be expected in these various classes; it may be slower than in the past few years, but I think in the hands of such careful growers as Dr. Denny, Mr. Pearson of Chilwell, Mr. George, and many others, it is sure to come. We may never see a more dazzling scarlet than Jean Sisley, a plant of better habit than Orbiculatum, or of finer foliage than Mme. Werle; but, until these various excellencies are all combined, by careful breeding, in one variety, I think it safe to say that the limit has not been reached.

Bedding Pelargoniums.

It has been the custom in England to separate those suitable for bedding from those best adapted to pot culture, and I suppose with good reason; but if desirable there, I do not think it so here; they use largely the narrow-petalled nosegay section, of which Waltham Seedling and Violet Hill are types, keeping the round-flowering zonals and the superb hybrid nosegays for cultivation under glass. Doubtless these two kinds, with Vesta, Star of Fire, and many others, will make a more brilliant show in some one week of the summer than any other class, but in our climate it is at the expense of the rest of the season. I prefer to use kinds less free but more constant in their flowering, of which the flowers are perfect in form and color, and have found that some of the best for pots are also the best for bedding.

Orbiculatum, Sir John Moore, Coleshill, Wellington, Douglas

Pearson, and Sir Charles Napier are the best among the scarlets, and to these must be added, for large beds, Gen. Grant. For pinks I recommend but two, Master Christine and Pink May Queen.

There are no white-flowering varieties fit for bedding, but their place is well supplied by the white-edged Albion Cliffs, which is far in advance of any yet tried by me.

In the golden-leaved section, Crystal Palace Gem still holds the first place.

Of bronzes the Moor is the best; Harold, the Earl of Rosslyn, and the Marquis of Lorne are next, but at a long interval; the others which have been tried by me, and which can stand our sun, grow too strongly and "run to green."

There are no silver tricolors worth growing for bedding. Of the golden ones Mrs. Pollock is the best, perhaps because that kind is plentiful and cheap, and has had a chance to get some strength; partly also, I think, owing to the light color of its leaf, which enables it to stand the sun better than those with darker zones.

A single word about arrangement in planting. I think the simpler the form of the beds the better, and that, if small, they should be filled with plants of a single kind. If large, they should have an edging of another kind, of a different color; or of a different plant, such as golden pyrethrum, variegated alyssum, or a dwarf coleus like the Emperor Napoleon.

Having had no experience with the newer double ones I cannot include them in these remarks.

W. C. Strong said that though there were some points in regard to which he did not quite agree with Mr. Gray, he yet felt that Mr. Gray was so good authority that he did not like to differ from him. He had seen in England and Scotland such specimens of tricolors as not even Mr. Gray's would compare with. They were very large plants, and he was under the impression that our hot suns were so unfavorable to the tricolors that it is difficult to produce such plants here

Mr. Gray believed that the plants mentioned by Mr. Strong were of several years' growth. He agreed with Mr. Strong so far as regards plants out of doors, but in houses we can control the heat and light. He shook the soil out in potting.

H. Weld Fuller said that he saw at Mr. Hunnewell's a circle of

the Earl of Rosslyn, mentioned by Mr. Gray, which bore exposure well and excited great admiration. He spoke with the highest approval of Mr. Gray's system of annotation, in a book ruled with columns for the names, dates of planting, dates of flowering, and value or worthlessness of the different varieties, so as to give at a glance a perfect view of the daily condition, flowering, and desirability of every kind. Mr. Gray imported four hundred and fifty varieties last year, out of which he will probably throw away four hundred, preserving only the elect.

Mr. Gray said, in answer to the President, that he had made his selections from eight hundred green foliaged, flowering varieties, and two hundred and fifty tricolored. He added that he would like to have some gentleman who understood the difference between the *Pelargonium*, *Geranium*, and *Erodium*, state it succinctly.

E. S. Rand, Jr., read from "Tilton's Journal of Horticulture," vol. iv. p. 89,—"Pelargoniums are known in gardens as geraniums, but are very different from them in their spurred calyx, usually irregular corolla, and the number of perfect stamens, which varies from seven down to four. The Geraniums are distinguished by having regular flowers, ten stamens with the filaments united at the base, and five carpels, each tipped by a long glabrous arm (the persistent style), which becomes recurved when it separates from the central axis."

Charles M. Hovey said that Mr. Gray had given us much valuable information that we could hardly have got from any one else. In regard to splendid specimen plants the question of their production is simply one of time, labor, and expense. They require much attention, and more room than most cultivators can afford, in order to give the necessary circulation of air. Although it generally requires two years to get a decent specimen, he knew of a gentleman who grew a plant two feet in diameter in ten months. An imported plant, like the Princess of Wales, shown by Mr. Gray, becomes sickly and stunted like an old pear tree. An English gardener would take this plant, and from a cutting would raise a large plant in a short time. It is unnecessary to point out the difference between the Pelargonium and Geranium, but there is a difference, as there is between the *Cydonia Japonica* and the *Pyrus malus*. He would continue to use the old and familiar name of Geranium. The geraniums of the botanists are our native species.

Mr. Strong asked whether we can imitate the climate of England.

Mr. Hovey replied that the pelargonium was a native of a hot climate. They are now making their growth, and will look best from this time until May, while receiving the influence of the returning sun. In England they are placed away after exhibition to rest, but we repot with the hope of getting a great plant, and by continuous watering and forcing they are nearly ruined. They should be dried off somewhat, and rested like bulbous plants; the roots die or are exhausted when they are allowed to grow continuously.

Mr. Hovey alluded to the Pelargonium Society, lately formed in England, and said that Mr. Beaton was the first to attempt the improvement of this class of plants. Mr. Paul raised Mrs. William Paul. Other growers were Denny, George, Pearson, Sisley, and Lemoine, the last named having originated the new double varieties. Few seedlings had been raised in this country, though some had been exhibited. Leonidas was one of the parents of many cross-bred varieties. He hoped Mr. Gray and other cultivators would raise seedlings, for we ought not to be wholly dependent upon foreign growers. The seedlings would be good, and valuable to the originator for planting out, even if not worthy of being named and sold.

Marshall P. Wilder thought Mr. Gray's paper an honor to the Society. In his judgment the Society should decide the question of name, and it would be a point gained. A similar case is that of the *Dracænas* and *Cordylines*, all the plants known to gardeners as Dracænas being classed by botanists as Cordylines.

Mr. Gray did not agree with Mr. Hovey when he said that it is simple and easy to raise good seedlings. We are over-run with poor varieties, and no grower should send out one unless it is better in some point than any other.

President Parkman said that the difficulty of deciding upon the proper name for these plants arose from the fact that we look at them from both horticultural and botanical points of view, and asked whether any horticultural distinction could be made, similar to that of the Bourbon, Bengal, and other classes among the roses.

Mr. Rand thought the two cases were not parallel, and that if possible we should make the horticultural and botanical views coincide.

Mr. Gray said that the simplest distinction of the pelargonium is that it has but seven stamens. The plants which we cultivate are pelargoniums and not geraniums.

John B. Moore thought it was desirable to have the name settled. The true name is pelargonium, but the public have used the wrong name, and some propose to continue it.

James Cruickshanks said that in his younger days there was but a very short list of geraniums and pelargoniums. The first seedling was raised by a Mr. Henderson; it was a cross between *Pelargonium sanguineum* and a greenhouse variety. Climate has a great deal to do with color; in our hot suns they can never be so distinct in color as in a cooler climate.

Mr. Wilder remarked that at the time mentioned by Mr. Cruickshanks, hybridization was very little understood. Herbert, the best authority on the subject, had not then written.

Mr. Rand thought the society owed it to themselves and the public to decide on the name of these plants. He moved that they be called pelargoniums.

Mr. Hovey said that the question of name had assumed an important aspect. He asked whether a single hybrid had been raised between the tuberous rooted species from the Cape of Good Hope and the Zonales. He believed that they would not breed together; he had tried many species, but could not breed them; botanists were divided in opinion on the subject.

Mr. Gray believed that Mr. Hovey was mistaken. He thought that crosses had been made, though none were known with absolute certainty. The *Pelargonium inquinans* is the parent of all these plants, they all come from pelargoniums, and there is no geranium blood in them.

Denys Zirngiebel remarked that it is generally admitted by the trade, and especially by French florists, that the plants in question should be called pelargoniums.

Mr. Rand re-stated his motion that the plants cultivated by florists as geraniums be called pelargoniums, and on putting the question it was decided in the affirmative.

Mr. Rand called attention to a plant of *Cœlogyne cristata* exhibited by him. He had found it far more easily grown than is commonly supposed, having four or five plants in the orchid house, and this one in the greenhouse, where it was watered and treated

just like the pelargoniums, and it is twice as good as any of the others.

The Chairman of the Committee on Discussion announced for next Saturday a paper on Cryptogamic Plants, by John Robinson.

BUSINESS MEETING.

Saturday, February 6, 1875.

An adjourned meeting of the society was holden at 11 o'clock, President Parkman in the chair.

George W. Pratt, from the Garden Committee, reported the organization of that committee by the choice of William Gray, Jr., as chairman.

John Robinson, from the Library Committee, reported that that committee had organized by the choice of Edward S. Rand, Jr., as chairman.

Voted, That a committee of nine be appointed by the President, of which he shall be chairman, to examine the By-Laws of the society, and report what changes therein are desirable.

The chair appointed Charles O. Whitmore, Charles M. Hovey, William Gray, Jr., Robert Manning, James Cruickshanks, Edward S. Rand, Jr., John C. Hovey, and William C. Strong.

Voted, That a committee of five be appointed to consider the expediency of a public entertainment at the close of the annual exhibition of the present year, and, if considered expedient, to report a plan therefor.

The chair appointed Charles H. B. Breck, Charles M. Hovey, Charles O. Whitmore, Marshall P. Wilder, and William Gray, Jr.

The following named persons were elected to membership: —

Augustus S. Perkins, of Boston.
Miss Clara L. Dove, of Andover.
Edward Gray, of Boston.
Mrs. Livia P. Flint, of Newton.
George S. Harwood, of Newton.

Adjourned to the first Saturday in March.

MEETING FOR DISCUSSION.

The meeting was opened with the following paper: —

Cryptogamia in Cultivation.

BY JOHN ROBINSON.

The subject of *Cryptogamia*, embracing as it does the larger part of vegetation, both in quantity of specimens and in number of species, is one that can hardly be treated very definitely in a single hour, therefore we will briefly notice various families and orders, dwelling particularly upon those where the species are used in cultivation.

A very simple and clear distinction between a flowering plant and a cryptogam is that the former is produced from a seed, while the latter is produced from a spore. If we open a seed we shall see, more or less clearly defined, a miniature plant. A seed is rarely so small as not readily to be seen by the naked eye, while a spore is rarely large enough to be seen without a lens, and contains no definite form within. In germination a seed grows directly into a plant like the one by which it was produced, while the spore rarely does,— some fungi, for instance, passing through as many as five or six stages before reproducing a plant similar to the first. This has been likened to some insect reproduction, the egg of a butterfly, for instance, producing a caterpillar which goes through certain changes to produce a butterfly similar to the one that deposited the egg. This fact is familiar to every one, and yet almost every cryptogam, growing from a spore, goes through about the same, or even more changes, while few persons realize it. The name cryptogam signifies "concealed marriage;" it was suggested by Linnæus (as every book on the subject tells us), who, although he could not find any sexual action in these plants, felt confident there must be such; and the discoveries of modern botanists have beautifully verified this supposition.

Glancing at the orders of this group, beginning with the lowest, we have first the *Diatoms*. These are plants consisting of a single cell, and, owing to the capability of free motion, were for a long time considered as animals, but are now placed as the lowest order of plants. They are all microscopic, and are found in nearly

every body of water; they have an indestructible coating of silica, and form in such quantities as to make thick deposits. The city of Richmond, Va., is built upon a bed of diatoms, eighteen feet thick. The polishing powder of domestic use, known as Tripoli, is composed entirely of the fossil remains of these plants.

Algæ grow in salt water and in fresh. They have both a very simple and a very complicated mode of reproduction. Some species are wholly microscopic, while others are the largest vegetables in the world; one, a species of *Microcystis*, growing off the California shore, would, if in the air instead of the water, tower more than one hundred feet above the tallest Sequoia in the Calaveras grove. A single plant of another sea-weed, by its great and branching growth, is sufficient to entirely obstruct navigation in channels otherwise deep enough to float many of the largest vessels. The Sargasso sea, so called, near the centre of the North Atlantic Ocean, is 260,000 square miles in extent, and is covered with but a single species of sea-weed. Many of the Algæ are very beautiful, but are not cultivated to any extent, except perhaps in some of the European aquaria.

Fungi are more numerous than the Algæ in number of species, but the plants are smaller, a majority of them being microscopic, as for instance the wheat smut, potato rot, bread mould, etc. Some of the larger species are cultivated for the table, one of which has been exhibited in this room. Fungi are very complicated in their reproduction, and grow with great rapidity, but are credited with a more rapid growth in many instances than is due them, as the root-like mycelium may have been growing a long time unobserved before the fruiting portion, the only part generally noticed, makes its appearance.

Lichens are now the subject of a botanical dispute; they grow upon wood and rocks, and are used only in cultivation as an ornament to the fernery.

Mosses and *Hepaticæ* are also familiar objects. Single specimens of the mosses are very minute, yet by their vast quantity they cover often an extended area, contributing a beautiful effect to the fernery or grotto, and are in nature a most pleasing object. They are also invaluable to the florist for various economic purposes.

Of the *Lycopods* the genus *Selaginella* is the only one much cultivated. The allied genera *Lycopodium* and *Selaginella* have

been much confused; they are distinguished by their different modes of fruiting. We will consider their cultivation farther on, in connection with the ferns, but I would here suggest, as a topic for discussion, the question why it is that the Lycopodiums are cultivated only with great difficulty, while the Selaginellas are managed with the greatest ease. *Marsilia quadrifolia*, a native of Connecticut, has been cultivated at the Botanic Garden, and has become established in ponds in this vicinity; the leaves resemble those of an oxalis; they float upon the water, the spores being at their bases. The plant is perfectly hardy, very pretty, and grows quite rapidly.

Equisetums, or Horse-tails, are an interesting and neglected genus. For out-door work nothing can be better, for certain effects, than the *E. sylvaticum*. It is not rare in our woods, and can be transplanted without much difficulty. It is already in use in England, and why not here? Other species of *Equisetum* are good, but none compare with this among our natives; it grows from twelve to eighteen inches high.

Ferns are more largely represented in cultivation than all other cryptogams; they vary in size from some species of *Trichomanes*, which are not half an inch high, to the noble *Dicksonia antarctica*, which attains a height of from sixty to eighty feet, with a spreading crown more than one hundred feet in circumference, yet in each of these extreme cases they grow from spores, which, even under the microscope, show but a very slight difference in form. A few notes on the introduction and cultivation of exotic ferns in Europe may be interesting.

The first species taken to England were *Cystopteris bulbifera* and *Adiantum pedatum*. They were carried thither from Virginia by John Tradescant, in 1628. Two other American species, *Onoclea sensibilis* and *Camptosorus rhizophyllus*, were introduced prior to the year 1700.

In 1768 there were at Kew 10 exotic species.
" 1789 " " " " 34 " "
" 1813 " " " " 83, at Berlin 30.
" 1822 " " " " 40, " " 91.
" 1846 " " " " 384.

In 1850, eight hundred and fifty species were under cultivation in Europe, and in 1866 more than a thousand at Kew alone. To

Sir W. J. Hooker and his associates belongs the credit of so great an increase during the later years. I cannot learn exactly how many are now under cultivation in America; probably from six hundred to eight hundred species.

The habit of making so great account of mere varieties as is now the custom in England, seems absurd and wrong. Almost every extended list describes over fifty varieties of some single species; probably the majority of these are abortive, malformed, ungraceful plants, religiously cared for and perpetuated, yet entirely unworthy of a place in any conservatory. Why should these be preserved any more than an unhealthy or malformed pelargonium or fuchsia? It is certainly not in accordance with the true spirit of improvement in cultivation that these are kept. There are variations of species, however, of great merit, as the *Adiantum Farleyense* and var. *cristata* of *Aspidium Filix-mas*, besides many others.

We cannot, in cultivating ferns, do better than to look at nature. I know but one fern that will grow with its root, or rather its rhizome, under water; they need a plentiful supply, but must have perfect drainage; if in pots or pans, for the more delicate kinds one third of the pot should be filled with finely broken crocks, with a bit of dry moss on top to prevent the earth washing through to clog the drainage.

The soil which is acknowledged to be the best for general use is about one part river sand, one part virgin loam, and two parts leaf-mould or peat, not made too fine. I have never tried manure, nor can I find any notice of its being used, except in one instance when well decomposed stable manure was tried with success. An even temperature, avoiding drafts, and a humid atmosphere, are to be desired for the tropical fern house; the house itself to be sunk below ground, and to face any way but south. The water shedding pinnules of the species of *Adiantum* suggest that showering the top of the plants is unnecessary, and I find by a slight personal experience that this is true, as has also been found the case at the Kew gardens, according to the reports. The necessary dampness may be kept up by having wet sand on the benches, and by sprinkling the ground as well. Many species of *Gymnogramme*, *Notholæna*, *Cheilanthes*, and *Pellæa* grow in exposed situations, and will endure drought and the direct rays of the sun. Some may be treated as severely as a cactus, while most species of *Asplenium*,

Adiantum, and tropical ferns generally, would be killed if treated in the same way. Species of *Trichomanes*, *Todea*, and *Hymenophyllum* require, in any ordinary house, a bell-glass for extra protection, and should be placed in the darkest corner.

Ferns which are reproduced most readily from spores are seldom easily divided at the crown, while those with a creeping rhizome, that may be quickly separated, are seldom abundantly produced from spores.

In raising ferns from spores, many ways are advocated; doubtless all are good enough, the great requisites being warmth and plenty of moisture; it is well to have the earth upon which the spores are sown made firm, and a few broken pieces of pots crowded into it. Of course water should not be dashed upon the place where planted, as the spores would be washed away. In most fern houses the air is full of the spores; we breathe them without knowing it, and they will select a congenial spot, often growing without troubling us to plant them.

Very pretty effects are produced by growing ferns in cocoanut shells, wire baskets, and hollow stumps. Some species of *Adiantum*, *Blechnum*, etc., form underground crowns, which will appear wherever there is an opening in the side or bottom of the basket in which they are grown, finally covering the whole with foliage.

For the moss-lined wire basket, the *Davallia* is best. The *Platycerium* (Stag-horn fern) will make a fine ornament for a stump; it requires but little earth, as it is almost epiphytic in habit.

In the Wardian case, the smaller growing species of ferns are most desirable. The Selaginellas are invaluable here, as they seem to prefer this confined life to the more exposed greenhouse; they like a soil suitable for most ferns, and owing to their habits need but slight depth of earth.

The subject of Ferneries might well occupy an entire morning for its discussion. Suffice it to say, that the fatal mistakes made in constructing a fernery for the parlor are, to have too much wood work, and too large-growing plants for the height of the glass.

With the climbing and arborescent species, or with the natural cultivation of ferns under glass, I have had no experience, but trust we may hear from those who have.

For out-door cultivation our native species are about all we can

use. I do not know of any species other than North American used in out-door cultivation in this region; doubtless there may be a few that would do well, natives of China, Japan, and Northern Europe. A very interesting paper on the "Geographical Distribution of American Ferns" has just appeared in the "Bulletin of the Torrey Botanical Club," from J. H. Redfield, which may give us light upon this subject, and perhaps show us where to look for ferns to cultivate out of doors. It has always been a surprise that more of our hardy ferns should not be used as borders to lawns and at the edges of groups of trees and shrubbery, especially where there is a northern exposure. Such species as *Struthiopteris Germanica* (growing six feet high), *Onoclea sensibilis* (two feet), *Aspidium spinulosum* (three feet), *A. cristatum* (three feet), *Asplenium thelypteroides* (three feet), *A. Filix-fœmina* (three feet), all the *Osmundas* (three to four feet), *Dicksonia* (two to three feet), and many others, would be most beautiful in such situations, particularly *Osmunda Claytoniana*, the fertile fronds of which, with their dark bunches of fruits, form a most beautiful contrast to the light green sterile ones which grow in a whorl around them. *Aspidium marginale*, *Phegopteris* (two species), *Asplenium* (two or three species), *Woodsia* (two species), *Polypodium*, and some others, are useful on the rock-work. I have about thirty species of natives, cultivated in an odd corner out-of-doors, where they serve as a screen before an ugly fence, require no attention (except perhaps to be watered during an extended drought), and are a source of great pleasure to myself and friends. I wish this branch of fern culture might receive more attention.

Ferns are troubled with as many pests as most plants, not even the hardy ones escaping. The green fly is of little consequence, as it is easily kept out of any well-regulated house. The various scales are more to be dreaded, as they often increase unobserved for a long time on the under side of a frond. The thrip is very hard to kill out when once established; it is most likely to attack plants which are in a temperature higher than their natural one. The red spider will be kept down, as with the roses, by syringing. Various slugs and even the currant worm will attack the out-door species, and another cryptogamous plant, a fungus, is often found on the fronds of ferns, imitating by its shape and position the fructification of the fern itself.

In regard to nomenclature, the many synonyms found among

the names of ferns prove troublesome in correctly labelling a collection; there are also many garden names which have been given to plants apparently without authority, and which add to the confusion. As there are but few known hybrids, and as the origin of almost all the varieties now cultivated can be decided, it is much easier to name ferns correctly than it is many other classes of plants that are the result of much hybridization and long cultivation; therefore it would seem to be the duty of all such societies as this to recognize but one name, and that the correct one. Thus by a joint and continued action with other societies one system of correct names would come into use, saving much confusion to future cultivators.

As an illustration of this point I may mention that at the last exhibition at Music Hall, in the same collection were two fine specimens of Selaginella growing in pans; one was ticketed *Lycopodium densum*, the other *Selaginella densa*. These are of course the same name, and both plants were, without doubt, *Selaginella apus*, a native of North America, from which the cultivated plant does not seem to vary.

A. P. Calder said that two years ago he planted a fern house one hundred and twenty feet by ten, and that he had used cow manure for the plants, which were thriving finely, as gentlemen present could testify. He had found this manure indispensable for all plants, but particularly for ferns. He used it only when thoroughly rotted, and made a compost of one half cow manure, and the other half soil from the woods.

Mr. Robinson knew no reason why manure should not be beneficial to ferns, though the books generally advise not to use it.

William C. Strong agreed with the essayist that it is surprising that ferns are not more cultivated. No plants produce finer effects on the lawn.

Edward S. Rand, Jr., spoke of the readiness with which ferns propagate. In the orchid house the spores floating in the air grow in the baskets of orchids, and have to be weeded out. *Gymnogramme chrysophylla*, especially, propagates with the greatest freedom. He had grown in the ordinary dry atmosphere of a dwelling house four species, *Nephrolepis exaltata*, *Adiantum cuneatum*, *Pteris tremula*, and *Pteris Cretica albo-lineata*. *Pteris serrulata*, which is a nuisance in the hothouse on account of its seeding so freely in every direction, cannot be grown in the parlor.

Marshall P. Wilder had found *Lomaria gibba* growing in his pits in the same way.

George E. Davenport said that although he had collected and studied ferns in the woods and fields, he had never had much experience in their cultivation, not having the facilities of garden or greenhouse, but he was surprised that more attention was not given to the cultivation of our native ferns by those who had. He had seen a line of *Osmunda cinnamomea* that produced a fine effect, and thought that this and the other species of this truly regal fern might be grown as an edging with great advantage. From a recent experience with the rare Hart's-tongue fern (*Scolopendrium vulgare*), he thought that many of our native ferns might be grown in pots as window plants for the house with ordinary care.

Charles M. Hovey said that he had been much pleased with Mr. Robinson's paper, and that the subject had been too much ignored. The reason that Mr. Calder had found manure beneficial to his ferns was that he cultivated them in the ground, while English cultivators rarely do. The whole style of cultivation of many plants is different in this country from that adopted in England. Thus one English cultivator has twelve hundred pinks in pots, while we put them in the ground, as we do bouvardias also. Manure is not generally applied to camellias, but Mr. Hovey had read of a gardener who had charge of a collection planted in the ground, and dug in manure every year, and they flourished and filled the house. When much manure is used in pots the soil becomes sodden. Manure would, no doubt, be good for ferns when planted in the ground, and old cow manure, from its cooling nature, would be best. Mr. Calder counteracts any ill effects of manure by the use of lime and charcoal. Ferns naturally flourish best by the sides of brooks. Our native ferns, *Onocleas*, *Dicksonia*, etc., grew naturally in Mr. Hovey's grounds, and, though thoroughly taken out twenty-five years ago, they spring up again whenever the ground is left uncultivated for three or four years, showing that the millions of spores retain their vitality, and grow when the circumstances are favorable. There is no need to cover with glass when fern spores are sown. A gardener of his acquaintance threw fruiting fronds into the water tank and the ferns grew up in the pots watered from it, so that in fact they were weeds. He (Mr. Hovey) had recently erected a fernery, where the ferns are planted

naturally among rocks. The smaller kinds are commonly grown in sphagnum moss, confined to the sides of the fern house by wire netting, but large plants must have more room, and do better in the ground. Our native ferns, such as *Adiantum pedatum*, *Lygodium palmatum*, and *Aspidiums*, are very beautiful. Those which as Mr. Robinson has stated, like *Gymnogramme Peruviana* and *Cheilanthes hirta Ellisiana*, do not flourish in the damp which suits others, but require a dryer atmosphere, may be grown with due care in dwelling houses. All the *Adiantums* repel water from the foliage, but still flourish in a moist atmosphere, set on wet moss. He thought the crested and other varieties of ferns worthy of cultivation for their curiosity. A young beginner often finds it difficult to name his plants correctly. From an article in "The Garden" (vol. vii., p. 60,) it appeared probable that they can be fertilized with a camel's hair pencil before they grow. Many kinds, among which is the *Adiantum Farleyense*, do not produce spores, but appear to be mules, and can be propagated only by division of the roots.

Mr. Robinson said that he had not seen the article mentioned by Mr. Hovey, but would dislike exceedingly to undertake the job of fertilizing with a camel's hair pencil, as every prothallus may contain a dozen each of archegonia and antheridia, so small as to be difficult to see with a quarter-inch objective.

E. W. Buswell said that as librarian he had an opportunity to judge of the interest felt in the subject under discussion. For the last two years the books on Cryptogamia had been more used than ever before. He wished to hear of the localities of our native ferns, and of the danger of exterminating certain species, such as the *Lygodium palmatum*.

Mr. Davenport said that Mr. Buswell's inquiry had opened up a subject that ought to interest all who care for the preservation of our native plants. The climbing fern (*Lygodium palmatum*), alluded to, is hawked about our streets every year in great quantities, and is in danger of being extirpated through the greed of traffickers. He had so great a repugnance to encouraging a traffic that is destroying this very beautiful fern that he had never purchased any, though frequently needing specimens for botanical exchanges. With proper restrictions the traffic might be rescued from this danger, and made subservient to refinement and beauty without diminishing the number of plants, but as at present conducted it is

only a question of time when this graceful fern shall cease to exist in Massachusetts.

Mr. Buswell remarked that members of the society interested in the preservation of this class of plants had taken pains to plant roots and spores of the rarer species of ferns, and seeds of flowering plants, in out of the way places for the purpose of keeping them from extermination, and he hoped to hear from some of these gentlemen.

Mr. Robinson said that in Connecticut a law had been passed forbidding the gathering of *Lygodium palmatum*. The fronds are annual, and may be gathered in August without injury.

E. H. Hitchings said that when collecting ferns he had scattered spores in favorable places, and had also planted roots and seeds of the rarer native flowers.

W. H. Halliday wished to inquire whether the close cutting of the fronds had a tendency to exterminate ferns. He stated that two years ago he had, in August, cut all the fronds from a very large patch of *Dicksonia punctilobula;* the next season at the same time he visited the place and found very few ferns.

Rev. A. B. Muzzey alluded to the *Camptosorus rhizophyllus* or Walking fern, of which he had been able to get but few specimens in this vicinity, though he found it plentiful in Lenox, Mass., but he knew a gentleman who found a single specimen in eastern Massachusetts. He had experienced a difficulty in cultivating ferns in a Wardian case; some say it must be kept close, while others advise opening and giving air occasionally. Different species no doubt require different treatment, and if we put half a dozen species into the same case we shall find it difficult to produce the conditions best adapted to all.

Mr. Davenport said that most ferns mature their buds for the succeeding year's growth along a creeping rhizome under ground, or in the sheathing base of the stipe, during the growing season, and if the plants were cut down or gathered before this work was accomplished, the roots would become weakened and gradually die out. This might account for the disappearance of the *Dicksonia* alluded to by Mr. Halliday.

In regard to the Walking fern having been found in eastern Massachusetts, as mentioned by Mr. Muzzey, he thought it quite likely to have been introduced, as he had never heard of its growing naturally in this State, except in the western part, where it

grew sparingly. This, and many other rare ferns and plants from other States, had been set out in eastern Massachusetts by himself and others, and the future botanist of some localities may be puzzled to distinguish between them and indigenous plants.

Mr. Robinson said that the *Camptosorus* grew naturally in limestone regions, and would not be found far away from that formation, which extends from Vermont through the Appalachian Mountains to Alabama.

J. W. Hubbard had had two short experiences with ferns—in his boyhood and in the last two years. He had mowed in the pastures in New Hampshire, on rainy days, what was then called "Polypody," and it seemed to grow all the more vigorously for being cut. He had been drawn to his later observations of ferns by seeing them exhibited here, and had found it a much pleasanter experience. No branch of botany is so bewildering to a beginner, on account of the multiplicity of names. He had felt seriously the want of some book comprising all the American ferns, and had interested himself in getting some one to write such a work. He suggested that the Society should give its influence to induce some competent person to prepare a work on ferns, their mode of growth, etc.

John B. Moore said that some ferns were great nuisances to farmers, —the common brake (*Osmunda cinnamomea*) for instance—you cannot kill them by mowing, it is almost impossible to plow them up, and if dug up the roots will not decay for twenty-five years. He liked ferns by roadsides, but not in mowing.

Mr. Rand said that the law against cutting the *Lygodium* allowed it to be gathered before the spores are ripe. It has been said here that the *Gymnogrammes* were impatient of water, and do well in the house. It is true that water is death to the fronds, but they revel in a moist atmosphere, and he had been unsuccessful in cultivating them as house plants.

Benjamin P. Ware said that Col. Daniel Needham, who has a large quantity of land in Groton, where the climbing fern (*Lygodium*) grows abundantly, found people were making from twenty to thirty dollars a day gathering it.

Mr. Hovey thought there was no more danger of exterminating the *Lygodium* than the cranberry, the vines of which are gathered by millions for planting.

Mr. Rand spoke of the quantity in which ferns grow when they

find a congenial soil. The *Adiantum pedatum*, for instance, is rare here, but in the Adirondacks he had seen patches of from fifty to a hundred acres in the maple woods.

Mr. Hubbard had found many ferns which are rare here, such as *Phegopteris Dryopteris*, *Cystopteris bulbifera*, *Aspidium aculeatum* var. *Braunii*, *Struthiopteris Germanica*, *Adiantum pedatum*, and the *Botrychiums*, especially *B. Virginicum*, plentiful in Vermont. Mr. Davenport's plan of planting was very beautiful in theory, but, as soon as known, these gardens would be despoiled.

James Cruickshanks had seen a mountain in Vermont where you might get wagon loads of *Adiantum pedatum*, with stems eighteen inches high, and heads the same distance across. Referring to Dr. Hooker's collection of ferns, which had been mentioned by Mr. Robinson, he said that Dr. Hooker was educated to love them early in life, his father having been devoted to this class of plants.

Mr. Strong said that a very large patch of *Adiantum pedatum* did exist in Waltham, but had been nearly exterminated.

Mr. Buswell wished to ask Mr. Moore whether he found all ferns as difficult to exterminate as the brakes. He advised Mr. Moore to turn pigs into the fields overgrown with brakes, as they were very fond of the young fronds, which contain a great deal of mucilage. He had known fields cleared of them in this way.

Mr. Moore replied that he was fond of ferns and cultivated them in his greenhouse, but, as to some of the native ferns, a pig might as well undertake to run his nose into Bunker Hill monument as to dig up such tough roots and eat them. Though he had not tried to exterminate ferns by turning in pigs himself, his neighbors had. He knew the locality of the climbing fern in Concord, and you can still gather them by the bushel. Some of those who gather the roots will succeed in growing it. Mr. Moore himself has it growing.

Mr. Strong thought it might be worthy of consideration whether it is best to have a law here for the protection of climbing fern, though he believed that when the growth is of value to the owners of land they would find the present laws sufficient for protection if enforced.

Mr. Moore had understood that the law in Connecticut was for the preservation of the crop, which was valuable to the owners of

the land on which it grew, and not for preventing the extermination of the species.

The chairman of the Committee on Discussion announced for next Saturday a paper by John B. Moore on the importance of originating new American varieties of fruit, with a history of one or two popular varieties.

MEETING FOR DISCUSSION.

SATURDAY, February 13, 1875.

The discussion was opened by reading the following paper:

NATIVE SEEDLING FRUITS.

BY JOHN B. MOORE.

Mr. President and Ladies and Gentlemen:

I propose to read to you a few of the reasons why we should give more attention to raising seedling fruits adapted to our climate in every respect, and also to describe the place of origin, history and habits of two of the most noted Massachusetts seedling apples. It is an extensive subject, and I shall not attempt to discuss it in all its bearings, as the time allowed for opening a discussion would be insufficient, and also for the reason that we have many practical and experienced members, conversant with this subject in all its details, who should, and I trust will, take part in the discussion. I will first give an account of the origin and introduction of the Hubbardston Nonsuch, and Hunt Russet apples.

In the summer of the year 1871, I was spending a few days in the town of Hubbardston, Massachusetts, and being interested in fruit, I had a desire to ascertain the history of the Hubbardston Nonsuch apple. For information I was referred to Mr. Bennett, who for many years had been town clerk of that town, as knowing probably more about it than any other person. Mr. Bennett informed me that the original tree was still alive, growing on land owned by Mr. Joseph H. Harris, on that part of his farm called the Gleason farm, and situated about four miles west of the vil-

lage of Hubbardston. I then went with a friend to the Gleason farm, which has no buildings, they having been burnt sixty-five years ago, and the farm being now occupied as a pasture. Near where the buildings formerly stood is an orchard of about half an acre, composed entirely of trees bearing wild or natural fruit. Near the centre of this group of trees stands the original Hubbardston Nonsuch, now an old tree, the trunk of which is about fifteen or sixteen inches in diameter and hollow, the top broken off at about eight feet above the ground. Vigorous branches had started from the sides of the trunk near the place where the top was broken, and had formed a small sized head, which, as I have since been informed, produced that year two barrels of good apples. I examined the tree carefully to find whether there was any evidence of its having been engrafted, and was satisfied that it had not been. Mr. Bennett, at my request, ascertained that Barzillai Gleason built a house and barn and started this farm about the year 1780, and probably about the same time planted the seed for this old orchard, which would make the trees nearly one hundred years old. These trees are not in rows, but stand at irregular distances, as many old orchards were formerly planted. The orchard, and in fact the whole farm, occupies a westerly slope, about half way from the top of the hills, which are large, to the valleys, and has a soil of gravelly loam, quite rocky, cold, and rather wet, and is what would be called good grazing land.

This apple was first brought to notice by a Mr. Murdock, of Newton, Mass., who had friends living on the next farm. Returning from a visit to Hubbardston, he carried with him a few of these apples; some of them he gave to Mr. Samuel Hyde, of Newton, who was engaged in the nursery business, and who was so much pleased with the fruit that he procured scions, and propagated and disseminated it. This was about the year 1828 or 1830. Previous to this time a man by the name of Dana Parker, of Hubbardston, had called it the Nonsuch; Mr. Hyde, to distinguish it from other apples of that name, called it the Hubbardston Nonsuch. This Mr. Dana Parker claimed to have originated the variety by engrafting a sour apple tree with scions from a sweet one, and some credulous persons believed it; but there stands the old tree, a living witness to the falsity of any such pretensions.

The Hunt Russet apple was cultivated about Concord, Mass., more than any other apple, until the introduction of the Baldwin.

It is now more sought for than that apple, for consumers have found out its good character, it being much better in quality as a cooking apple, better for the table, and better for keeping than the Baldwin.

From all the traditions, which seem to be well founded, this apple originated on the old Hunt farm, in Concord, Mass. This farm is located one mile north of the village, on the south side of "Punkatasset" hill, overlooking the old North Bridge of Revolutionary fame; the soil a warm gravelly loam, somewhat rocky. The late Mr. Humphrey Hunt, who had given much attention to apples, and lived on a farm about one mile from the old place, had a row of trees of this variety near his house, some of which are still remaining. He informed me that these trees were large old trees when he was a boy, and were planted by his great-grandfather. It is now one hundred and five years since he was born, and if they were old trees when he was a boy, they are at least two hundred years old now, and this variety has undoubtedly been growing in Concord more than two hundred years. I inquired of Mr. Hunt where this apple originated; he said on the old Hunt farm on Punkatasset hill.

I have described these old trees more minutely for the purpose of showing the great longevity of the variety, and that means hardiness, for no puny, feeble variety lives to any such age. In the year 1832, when nearly all the young Baldwin trees were winter killed, this variety escaped entirely unharmed, and the same result happened two years ago. These facts prove its great hardiness and ability to withstand changes of temperature. Another fact should also be remembered, that although it will grow almost any where, it will not fruit well in a cold and wet soil, unlike the Hubbardston, which is also quite hardy, and will produce good crops on soils too cold and wet for either the Hunt Russet or Baldwin, and on dry and warm soils also. In fact the Hubbardston is productive on almost any soil or location where any apple tree will grow.

My observation leads me to believe that apple trees originating on a cold and wet soil will do well on a soil similar to that on which they originated, and on warmer soils also, but that those originating and showing their perfection on warmer soils are not adapted to cold ones. There may be exceptions to this rule, but I think it will be found generally correct.

The above inquiries about the apple have led me to consider the adaptation of fruits to our soil and climate. It certainly does look as though we must depend upon ourselves—that we must originate here on our own soil, varieties suitable to our climate, and which shall be in all respects preferable to our old varieties, combining hardiness, good quality, productiveness, and beauty, with which to fill the gaps in our present lists.

Only a few years ago, and long after this society was founded, we depended almost entirely for our pears upon varieties originated in Europe. The older members of the society, with a commendable desire to increase the number of good pears, and at a considerable expense, imported varieties by hundreds, tested them, and were obliged to reject a large portion of them either for their poor quality or some other fault. The only American pear then in common cultivation, which in quality would now be called strictly first-rate, was the Seckel. Now, how is it? In the prize lists of this society, for the present year, you will find special prizes offered for eight American, and for seventeen European varieties, and were I to be restricted to fifteen out of the whole twenty-five, the eight American varieties would be among the fifteen. Now I do not wish to be understood as objecting to the importation of new fruits, or to the European varieties. I know well that the interest in raising new seedlings, and even the seed from which some of them were grown, came from these importations, but I wish to show that native varieties are fast gaining in public favor, and in the end must displace many of the old varieties, because they are better suited to our climate and soil.

In a collection of five varieties of apples for general cultivation, only one variety not native, the Gravenstein, would be selected, and this for its good quality and beauty, for it is not remarkably productive. The same remark applies to strawberries, the English varieties, though large and handsome, being a failure here ; and the French and Belgian varieties, if we except the Triomphe de Gand and Jucunda, which are not destined to become great market varieties, are no better.

Foreign varieties of grapes have long since proved a failure for out-door culture. Constant attempts are being made to hybridize the native with the foreign varieties, with the object of attaining the fine quality of the foreign and acquiring hardiness sufficient to withstand our climate. Many varieties have been produced from this

hybridized seed, almost all, I was going to say all, of them showing the faults of the foreign,— lateness, tendency to mildew, and inability to withstand our winters without protection. Some of these experiments are, perhaps, worth trying, and I trust may prove successful.

The prominent features in the foreign varieties of grapes are fine quality, large bunches, inability to withstand the cold of our winters without protection, leaf exceedingly subject to mildew, wood soft and spongy, and lateness of ripening. Now among these points the only ones desirable to perpetuate are fine quality and large bunches; the others are defects. The points of the native varieties are earliness of ripening, hardiness, and poor quality generally, in some a tendency to drop from the bunch, and a general adaptation to our climate. Of these all that it is desirable to retain are hardiness, earliness, and adaptation to our climate. Now if we could extract the good qualities from each parent without also taking the poor, it would be one thing, but actual experiments prove that it is almost impossible. Constitutional defects are very likely to be perpetuated in the offspring of either plants or animals, more likely, I often think, than desirable qualities. Now the grape is unlike any other variety of fruit in these respects, for in the other fruits we grow seedlings from the same species; not as in the hybrid grape from two distinct species,— which some botanists or horticulturists at one time doubted the possibility of crossing together, although others have claimed that they are the same species,— and therefore in the other fruits we can avoid these serious defects by not using those with weak habits for parents. I know how fascinated one becomes over some of the new hybrid grapes; we plant them in our gardens, they are strong, vigorous growers, and will withstand trouble better when young than afterwards. In three years we have a few bunches of ripe grapes, every thing looks lovely, we have petted them, laid them down and covered in the winter; then we have a year like 1873, in which there is considerable mildew, and grapes are rather poor, followed by a season like 1874,— grapes do not ripen, vines are badly mildewed, the wood is mostly killed, and the vines are so much injured that with good seasons afterwards it will be difficult for them to recover, and these grapes are called *hardy*. What does hardiness mean in Massachusetts? Does it not mean the ability in any tree or plant to stand up,— not taken down and

covered,—I say to stand up in an open situation, exposed to a temperature of fifteen degrees below zero, accompanied by a sharp wind, without injury? It must mean that, if it means any thing, for that state of things will exist every few years. Some may say that they are fine and we can afford to lay them down and cover up; that we can afford to dust them with sulphur and pet them generally. To such I would say, do a better thing and have a still better grape, build a cheap cold grapery and have something that you can rely upon, and that will prove to be more satisfactory.

But were I raising seedlings, hardiness sufficient to withstand our climate would be the first requisite, and breeding from a variety defective in that respect would seem to be a mistake that should be avoided. Some varieties of the strawberry, grape, and other fruits are very fixed in their character, and seedlings from any of them would be either very much like the parents, or exact reproductions of them. I have found this particularly so with some strawberries, but if a variety has once broken its habits, or, in other words, "sported," there is no limit to what it may do afterwards, and from such varieties we should expect improvements.

Need I say that the soil, climate, and skill that have produced the Baldwin, Rhode Island Greening, Porter, Williams, Roxbury Russet, Hunt Russet, Foundling, Garden Royal, Hubbardston Nonsuch, Mother, and other apples; Clapp's Favorite, Dana's Hovey, Seckel, Howell, Sheldon, Tyson, Lawrence, Onondaga, Merriam, and other pears; Hovey's Seedling, Wilson's Albany, President Wilder, and numerous other varieties of strawberries; Crawford's Early and Late, Cooledge's Favorite, Hale's Early, and many other fine peaches; the Concord and other varieties of grapes,—can, if properly directed, produce any number of new seedling fruits of fine quality adapted to our climate. An intelligent method of procedure, combined with determined and persistent efforts, will in the end accomplish the object desired.

You may ask, What is an intelligent method? That will be more difficult to answer, and I approach it with much diffidence in the presence of some of our older presidents, men who have made their mark in this direction.

The old maxim in breeding animals, that like produces like, is just as true in breeding fruits, therefore select for the parents varieties having, in a marked degree, the points you wish to perpetuate. Suppose one of these points is quality; if a variety has

a weak habit of growth, any tendency to disease in any form, or a want of hardiness, reject it, for if you breed from such a parent, the chances are stronger of perpetuating its bad than its good points, and the perpetuating of simply quality, with a weak habit or want of hardiness, is no gain whatever. We must have hardiness and vigor, or all the other good qualities will be rendered useless. The sooner we try to adapt the variety of fruit to the locality, not the locality to the variety, as we have been constantly trying to do, the quicker we shall succeed. It is too much to expect one variety of fruit to succeed everywhere, or even to succeed on the different soils here, and it is rarely that we find one of that description. Collins and Bakewell raised, yes founded, those splendid herds of Short Horn cattle and flocks of sheep by adopting the rule that like produces like, and by adapting the cattle or sheep to their locality. Those cattle deteriorate when fed on our pastures, but succeed on the rich pastures in the West, because they are adapted to such pastures and localities. I am aware that these views will not be accepted by all here, but the object of this paper is to suggest ideas for discussion, and if I have advanced wrong or untenable views, I shall be glad to be set right. I look for most of the improvement in fruits here to the influence of the Massachusetts Horticultural Society. The public do not know it, but I am well satisfied that if this society had not existed, there would not have been any of Dana's or Clapp's seedling pears, or Hovey's or Wilder's seedling strawberries, for the exhibitions of new fruits and the interest in them created by this society caused indirectly, if not directly, the efforts of these men in this direction, which have been crowned with such success.

Marshall P. Wilder said that he had been very much pleased with Mr. Moore's paper. It is such essays as this, which go to the bottom of the subject, that elevate horticulture to a science. If each member of the society had raised only one variety like the Hubbardston Nonsuch, the country would have been flooded with fine fruits. He supposed that Mr. Moore would give us an illustration of his method of producing seedling strawberries. Mr. Wilder here exhibited two seedling plants raised by him last summer. Instead of growing the plants in the greenhouse, for crossing in the spring, as was formerly his practice, he has taken up stools of pistillate plants in flower, from the open ground, picking out the weak blossoms, and then carrying staminate flowers to the green-

house and fertilizing. He sowed the seeds immediately on their ripening.

Charles M. Hovey questioned the correctness of the date (1832) given by Mr. Moore, of the destruction of Baldwin apple and other trees. He was under the impression that it was in 1835.

Robert Manning said that the notices in the "New England Farmer" all through the spring of 1832, by Mr. Lowell and others, of the great injury to fruit trees the previous winter, establish the correctness of the date given by Mr. Moore.

Mr. Hovey had been pleased with Mr. Moore's paper, and especially with the requisites which he had laid down for new fruits—vigor, strength of constitution, and hardiness. The point as to hardiness, particularly, was well put. Why should half hardy rhododendrons and similar plants, which require covering, be called hardy? To be classed as hardy, plants should be able to stand in the average of years; it would not be just to deny the hardiness of plants because they were killed in an exceptionally cold winter, as grapes, etc., were here in 1857, and hollies, rhododendrons, and laurestinus in England in 1861. So with strawberries — those which require covering cannot be strictly termed hardy. He did not wholly believe in the view that a fruit must be a native of a given locality to be adapted to cultivation there. The Seckel and Bartlett pears, and the Red Astrachan, Gravenstein, Baldwin, and Rhode Island Greening apples do well everywhere. To be worthy of being added to the list a fruit should be an improvement over all others in some points, and should not require peculiarities of culture or location. The Lawrence pear, though possessing many valuable characteristics, is not adapted to market, from the delicacy of its skin, and some strawberries, it is well known, though of fine quality, cannot possibly be carried to market, from their extreme softness. We must raise a vast number of seedlings to select from them such as shall be truly valuable.

President Parkman inquired whether, in raising seedlings, seed should be selected not only from fruit of fine quality, but from fine specimens.

Mr. Hovey believed that the cause of the inferior quality of seedling fruits might be in the selection of seed from the largest and most watery specimens. He thought this probably the case with some of Mr. Clapp's seedling pears, and accounted in the

same way for the tendency of some of them to rot at the core. He would select seed from medium sized, solid specimens of pears, and the same with strawberries. Among flowers, the semi-double camellias, fertilized with very double kinds, produce flowers so hard that they will not open, but single flowers fertilized with the pollen of double kinds produce flowers sufficiently double.

Mr. Wilder said that there was some truth in Mr. Hovey's remarks. Some of Mr. Clapp's seedling pears were raised from the Flemish Beauty, which has a tendency to rot at the core. He would suggest whether this tendency may not be caused by sowing the seeds of high bred varieties, but the subject is little understood, and it should be noted that others of Mr. Clapp's seedlings, presenting evidence of the highest refinement, are remarkable for their keeping qualities. All agree on the desirability of hardiness and vigorous constitution; but we must have excellence of eating quality in fruits, and two great points are fine form and pleasing color. From the time of Henry VIII. a red apple has sold better than a yellow one.

President Parkman said that there were two methods of producing new varieties: first, hybridizing,— attempting, as Mr. Moore has said, to combine the best qualities of two varieties, but often succeeding in combining only the worst. The other method may be called, in the language of the day, evolution or development. The question is whether we may expect this latter method to produce from our wild grapes varieties equalling or approaching the foreign in quality.

Mr. Moore expressed the belief that whoever lives thirty years will see such grapes, if the progress of the last thirty years continues. He has five hundred seedlings planted to fruit, and never covers one, but keeps them on the trellis all winter. If one is to be killed, the sooner the better. When the Concord winter kills it is because the wood is not ripe; people manure heavily to produce large fruit, and produce unripe wood. The wood of the Isabella is soft, unlike that of the Concord. When he wants to raise seedling strawberries he puts some pistillates away from any other plants, except the staminate which he desires to fertilize them. Ordinarily there is one strawberry on a vine better than the others, and he selects that one for seed.

Henry F. French asked, What makes buds winter kill? Downing had a theory that when the temperature fell to a few degrees

below zero, all the buds were winter killed. He had examined the point, and satisfied himself and Mr. Downing that the theory was incorrect. Why is it that buds are killed with the temperature at a certain point some years and not others? Mr. Moore has partly explained it. What is the effect of cold,—does it rupture the sap-vessels? It would appear that it does, from the fact that sometimes when trees have been winter killed the sap will collect so as to spirt out on pressure. Undoubtedly trees freeze through, as those who have chopped wood know, but what the particular injurious effect is, and why it is produced some times and not others he did not know.

If we cannot get a grape that will stand on the trellis through the winter, shall we give up the attempt to cultivate grapes? Grape vines in houses require to be covered, and it is no more work to cover them out doors than in the house. Even in those countries which are generally considered best adapted to the grape the vines are sometimes covered. In Turin, Mr. French said, grape vines are taken down and covered just as they are here. He keeps his Concords up, but has taken down and covered Delaware, Iona, and Rogers' Hybrids. He did not think the trouble of covering too great a tax, but if we can get varieties of equal excellence that do not need covering, so much the better. In mild climates both plants and animals feel the cold.

Mr. Manning was asked to state Dr. Van Mons' theory in regard to raising seedling fruits, and replied that though Dr. Van Mons did undoubtedly have a very elaborate theory, according to which the best results were to be expected by commencing with wild fruits, and ameliorating them through several successive generations, after which only the finest fruits would be produced, his researches into the results effected by Van Mons in accordance with this theory had been extremely unsatisfactory, owing to the fact that, like all other lovers of good fruit, he was a collector as well as an originator, and it was impossible to distinguish between the varieties raised by him and those raised by others. Moreover, fruits sent out by him as his own seedlings bore evidence of parentage from some of the old varieties, instead of the distinct character which we should expect from seedlings raised in accordance with his theory. The Queen of the Low Countries, for instance, which Van Mons claimed as a seedling of his own, and extolled as being "without doubt the most perfect of pears," is

little more than a reproduction of the old Spanish Bon Chretien, described by Quintinye nearly two hundred years ago.

Mr. Hovey said that Mr. Manning's remarks expressed precisely his opinion,— not that Van Mons had not done so much for horticulture as had been supposed, but owing to the facts stated it was exceedingly difficult to say precisely what he had done. Thus the Beurre Spence, which he described as one of his seedlings, and to which he gave the highest praise, proved, after numberless erroneous kinds had been received for it, to be nothing else than the Flemish Beauty, which was not originated by Van Mons. This variety now bears evidence of decay, as do the Glout Morceau and St. Michael, but it makes a good stock to graft other varieties upon. There was one other native pear, the Andrews, which had not been mentioned, though nearly as well known as the Seckel. Though different accounts are given as to its origin, all agree that it is a native.

Mr. Wilder said that Van Mons was undoubtedly mistaken as to the origin of some of the fruits which he disseminated. There are many of them which bear evidence of culture, and could not have come immediately from wild sorts. Neither could he prevent his trees planted closely together from fertilizing each other.

E. W. Wood alluded to the alternate bearing of some varieties of apples, and spoke of an orchard in Marshfield which produced between three and four hundred bushels in 1873. A committee of the Newton Horticultural Society, of which James F. C. Hyde was chairman, was appointed to inquire into the cause of this productiveness when other orchards failed to bear, and although the owner evaded the question, it was ascertained that he had been particular to remove all the blossoms in the even year, and that this course had not succeeded equally well with all varieties. Mr. Wood also spoke of the Sweet and Sour apple, of which there was a tree in his grandfather's orchard more than seventy-five years ago, that sometimes bore from thirty to forty bushels in alternate years. The tree has been grafted from largely. It produced on the same limb apples entirely sour, entirely sweet, and partly sweet and partly sour, the sour predominating. The sweet apples were smaller and yellower than the sour, and these characteristics were retained by the respective portions in those which were both sweet and sour, there being a ridge around the fruit

where the two kinds joined. In growth the tree resembles the Rhode Island Greening. The common account of the origin of this variety is that two buds were divided and caused to unite

Mr. French said that such a tree grew in his father's orchard.

Mr. Hovey had never seen specimens of such a fruit.

Mr. Wilder's confidence in the existence of such a fruit had never been sufficient.

Mr. Hovey said that many mistakes occur in gathering fruit, but there was no reason why fruits should not vary like flowers—like some camellias before him, for instance.

Mr. Wood did not know that the peculiarity could be transmitted, in all its strength, by grafting but the existence of such an apple was a fact well known in Worcester county.

Benjamin G. Smith was prepared to bear testimony to the existence of the Sweet and Sour apple. He knew of a tree in Sudbury which produced fruit with one half sweet and the other half acid.

James Cruickshanks said that he saw a very handsome dish at the exhibition in Worcester.

Mr. Manning said that he tasted some specimens brought here by Mr. Wood last fall, and though the difference was less distinctly marked than he expected to find it, there were one or two specimens in which it was quite decided.

E. W. Buswell said that the more marked and striking specimens had been selected and tasted at Mr. Wood's store, before the collection was brought to the hall.

MEETING FOR DISCUSSION.

Saturday, February 20, 1875.

The discussion was opened by the following paper: —

Parlor Plants. I.

BY EDWARD S. RAND, JR.

The general love of flowers manifests itself most noticeably in the culture of window plants. Alike in the parlors of the rich and the garrets of the poor we see the love of these bright gifts

of nature,—often, indeed, in the latter case the only indication of an appreciation of the beautiful. The window plants are cared for and tended, they share with the children of the family the mother's solicitude, but often from their general appearance one would judge that the care bestowed was ill requited. Yet the fault is not in the plants; they will well repay all care, but that care must be directed by intelligence.

A plant is an organized being; it lives, breathes, eats, drinks, and digests; its term of life varies from a few summer days to hundreds of years; its wants are few, its food simple, and essentially the same in all the myriads of species, from the pole to the equator.

An important point to bear in mind is that these wants,—these needs of the plant,—few though they be, are imperative and unvarying. A man may neglect to take food, or he may over feed, and perchance escape ill effects, but the more delicate organism of the plant refuses over indulgence, and is sure to suffer from privation.

We are thus led to the statement that the reason of the general ill success of parlor culture of flowers is too great or too little care. In the first place, a plant is killed by kindness—by provision for fancied needs; in the other by neglect to supply the essentials of healthy life.

A third cause also is a choice of unsuitable species of plants, for the healthful existence of which we can not in parlor culture supply the requisites. Let us now briefly consider the life of a plant as shown by the wants which are essential to that life.

We have said a plant lives and breathes, and a want of provision for this breathing is, we hold, one great cause of ill success in parlor culture. A plant breathes through myriads of pores existing more or less numerously in the foliage according to the species. If these pores become in any degree clogged by the fine dust of the room, just so much is the health of the plant affected by the stoppage of one of the vital functions. The dry air of living rooms, often contaminated by furnace gas or unconsumed illuminating gas, is another source of ill health.

Plants must breathe a moist pure atmosphere,—although what is a pure atmosphere for a plant is not so for animal life, as plants exhale oxygen and inhale carbonic acid, while exactly the converse is true of animals,—and an atmosphere charged with coal gases is sure to produce disease.

The food of a plant is derived partly (sometimes wholly) from the air, in the form of moisture, and partly from the earth in the form of soluble salts; this food it elaborates by its own peculiar organism and appropriates to its growth, and just in the proportion that this food is furnished in suitable form and quantity for such adaptation, will be the healthy growth of the plant. Plants, too, have their seasons for feeding, and the supply of nutriment must not only be sufficient in quality and quantity, but furnished at the proper time.

Light, generally direct sunlight, is important to the health of plants; comparatively few thrive in shade, and with most the more light the stronger and more vigorous the growth. Plants grow to the light, and withdrawn from it they strive to reach it, and become what the gardeners call "drawn," that is, produce long, weak growth, with leaves at long intervals, instead of the short, stocky growth, which is in most plants a sign of health.

We thus have the essentials of health in the requisites of air, cleanliness, and light. These properly provided, with judicious waterings and suitable soil, success is certain. Let us, however, consider these essentials somewhat in detail.

Air. — We have said a vitiated atmosphere is unsuitable for the healthy growth of plants, and such is the air of most parlors and living rooms. Its life is dried out of it by its passing over the red hot iron of our furnaces and stoves. We can all remember instances where plants do well in rooms heated by open wood fires, the most healthy mode of heating a room, both for plants and human beings. Steam heat is better than that of furnaces or stoves, as the air is less contaminated, and can be kept moister. But it is not alone the dryness of the air that is injurious. From all furnaces or stoves more or less gases escape and contaminate the air, and where gas is used for illumination, a large percentage escapes unconsumed into the air of the room. Now, how can we remedy this? If possible, by growing our plants in rooms which are not lighted by gas or heated by furnaces or stoves. Where this is impossible, by securing by ventilation a complete change of the air of the room at least twice a day. Plants, especially those suited for parlor culture, seldom require a very high temperature, and most of our living rooms are too hot for them; a night temperature of 40°, rising to 65 or 70° by day, is quite sufficient for the healthy growth of most plants, and this rise of temperature should be mostly from sun heat.

Sudden changes of temperature, and cold drafts, should be avoided: to some plants a chill is almost as injurious as frost. During the present winter we have grown palms (*Latania*), agaves, *Cypripedium insigne*, *Tillandsias*, four species of ferns, Chinese primroses, and pelargoniums in a large entry where every cold night the mercury was as low as 42°, and more healthy plants one could not wish. A good plan is to separate a bow window from the room by a glass partition, making in fact a small conservatory, and thus pure air, moisture, and light can be secured. Evaporation of water on stoves or furnaces is of great benefit, and should be universally adopted; in fact the moister we can keep the air of the room, consistently with the health and comfort of the inmates, the better it will be for the plants; but let us remember that in a low temperature the moisture may be less than where the room is kept very warm.

Cleanliness is of the first importance. A dirty plant will not thrive. The fine dust always floating in the air of living rooms settles upon the plants. This is easily removed by sponging with lukewarm water, or by removing the plant to a sink and copiously showering it from the fine rose of a water-pot. The stem also of hard wooded plants should be occasionally sponged.

The frequency of showering or washing must be regulated by the necessities of the case or the nature of the plant. Some plants are impatient of water upon the foliage. In many cases dust may be removed by gentle brushing with a soft feather duster.

Under this head we may properly speak of the insects infesting house plants. These are few, and very little attention will keep plants clean.

Green fly, or aphis, which is the most common pest, is best destroyed by smoking. Place the infested plant under a barrel, put a few live coals in a dish, moisten some common plug tobacco that it may not blaze, throw it upon the coals, and let the plant remain in the fumes from five to ten minutes; then give the plant a good syringing or sprinkling, and the work is done.

Thrip seldom attacks house plants; should they be found, smoking will remove them. Red spider is kept down by moisture,—frequent washing and sprinkling will destroy it.

Mealy bug is one of the worst pests of the greenhouse, but is rare on parlor plants. Washing will remove it, but the best plan is to touch the places where it is seen with a camel's hair pencil dipped in diluted alcohol.

Scale of several kinds is often found on the stems and leaves of parlor plants; washing with strong soapsuds and persistent application will remove it. A paragraph has been going the rounds of the papers recommending kerosene oil for scale on ivy; that it will destroy scale there is no doubt, but it will also kill the foliage. It might, however, be used cautiously if diluted with water, with which it will mix if a little soap is added.

A healthy plant is much less likely to be infested with insects, and if plants are kept in stout, vigorous growth there will be little trouble from any insect pest. A warm dry atmosphere is much more conducive to their development than a low moist temperature. Generally, however, house plants have no insects which very little care when they first appear will not remove.

Light is very important to plants, and for most plants direct sunlight is necessary. A southerly window is the best exposure, but a deep bow window fronting the south, where the morning sun can come in on the east, and the light of the setting sun on the west, is the best for the growth of plants. If the choice is between an easterly or a westerly window, the easterly should have the preference, as the morning sun is better than the afternoon. The plants should be as close to the light as possible, as thereby there is less danger of their becoming drawn; they should be frequently turned, that all sides may have equal exposure; this is especially necessary with quick growing, soft wooded plants. Some of the revolving flower-stands are in this respect very useful, as they enable the plants to be turned to the light without the labor of lifting the pots. Light has also great influ ence upon the colors of flowers, which if grown away from the sun are usually pale and weak.

Water. — We have said that plants derive most of their food from the soluble salts of the soil which are taken up by the roots in a liquid form and assimilated to the uses of the plant. Sufficient and careful watering is most essential to successful culture, and it is from neglect in this particular that so many failures arise. The quantity of water needed varies with the nature of the plant; a very little suffices for some, others require a large supply. There are, however, very few plants that will flourish with water standing around the roots. Therefore, in potting, provision should be made by ample drainage for the escape of all superfluous water, and where saucers are used all water which drains off should be

emptied. Watering may be more or less frequent according to the nature of the plant, but should always be thorough; not little driblets, given now and then, moistening the surface soil, and leaving the centre of the ball dust dry, but a good soaking, thoroughly wetting all the soil until the water runs off; then do not water again until the plant is dry. The temperature of the water should never be below that of the air of the room; it may be higher, and the water may even be lukewarm; but the many paragraphs found in newspapers advising the use of hot water are no less pernicious than absurd. In a future paper treating of the best plants for parlor culture, we propose to prescribe more fully as to watering. The best mode of enriching the soil is in the water; guano, the salts of ammonia, and other manures may be applied in a soluble form; caution is necessary, however, lest the manure be too strong, thereby injuring the plant; and usually, if the soil is good, no manure will be required. If a plant exhausts the soil, the best remedy is repotting.

Soil.—The soil in which the plant is grown is an important element of culture. For most house plants a rich light soil is suitable, such as may be easily made by a slight mixture of fine fresh sand with good garden loam. In this, if good drainage is secured, most plants will do well. Where, however, it can be obtained, a mixture of two parts well rotted turf and one part sharp sand is preferable.

If there is a neighboring greenhouse it is easy to obtain such soil, but any sweet earth which is not close, or by becoming so, allowed to get sour, will grow common plants well. The soil specially suited for particular plants will be prescribed when treating of those plants. It is a good plan to stir the surface of the soil in the pots whenever it becomes hard; this is especially beneficial to roses. The addition of a few bits of charcoal to the soil often increases the brilliancy of the flowers, and to some plants powdered bone imparts a more vigorous growth.

To conclude: while plants may live and often bloom with little care, and often in spite of neglect, they will repay well directed care by vigor of growth and profusion of bloom. While their wants are but few, attention to these is essential to their health; and in the parlor culture of plants, if they are worth growing at all, they are well worth the care which is necessary for successful culture.

In a future paper we propose to treat of the plants most suitable for house culture.

Charles M. Hovey criticised Mr. Rand's recommendation of "good garden loam." This is a very general term, and unless a person has removed to the country and formed a new place, the soil of his garden is hardly fit for the general culture of pot plants. He would say, good maiden loam, such as the top spit of a pasture. Garden loam might answer for some things which are easily cultivated. Another point, noticed by Mr. Rand as very important, especially for roses, is stirring the surface soil. Mr. Hovey agreed with him, and had found it in five cases out of ten fully as beneficial as repotting.

Mr. Rand thought Mr. Hovey's criticism on the expression "garden loam" quite correct. He did not mean such loam as is commonly dug out of gardens, but native loam.

Marshall P. Wilder had been highly pleased with Mr. Rand's article, and thought it would be productive of much good. He desired to enforce the necessity of fresh, pure air, especially for hard wooded plants which had been dried by heat and gas. He grew plants at No. 4 Montgomery place, opposite the hall, from 1827 to 1832, and among them were camellias, which he procured from Mr. Haggerston, of the Charlestown Vineyard, and which formed the foundation of his present collection of several hundred plants. He found it very important, especially for the camellias and plants of similar character, to give them air on a mild day, such as we sometimes have in March. By this management, and keeping them dormant in a northern room until it was time for them to bloom, he was very successful. Plants are tantalized by too much heat.

Watering with liquid manure is a great improvement, but much care should be taken to use it very weak. Mr. Mechi, who has used it so extensively on his farm crops in England, prefers it almost colorless. M. Van Houtte has given very full directions for preparing and using it; he makes it from cow manure, and has it almost transparent. There is nothing so much neglected in pot cultivation as thorough drainage.

E. W. Buswell inquired whether charcoal did not prevent the tendency to souring of the soil, which had been mentioned. His practice had been to mix charcoal dust with the soil in pots which

were to remain for some length of time, and he had considered it beneficial in keeping the soil sweet. Mr. Wilder answered that it was; if the water in your cistern is offensive, put in a bag of charcoal and it will soon become sweet.

Mr. Rand, in answer to a question from Henry F. French, as to the preparation of loam for pot plants, said that the best way is to take the turfs from a pasture in the spring and stack them, and in autumn a large part will be rotted, but they will be better the next spring. Mixed with a little sharp sand, this will grow nine plants out of ten.

J. H. Woodford said that he had a rotary stand of plants in a bay window, with an oil-cloth under it, and by turning up the edges and placing a lath underneath he was able to water them there, though the servants objected to wiping up the oil-cloth. The plants looked very finely, and the foliage was healthy, but keeping them so moist, they had green fly, and he was obliged to take them to the sink and syringe thoroughly. Plants feel the changes of the season, and to succeed they should be potted early, say in July or August. He would use very coarse soil—he would not object to lumps as large as a hen's egg, and would like to get some old dry cow dung from a pasture and break up to put in the bottom of the pots.

Mr. Hovey said that it was very important to turn plants round at least once a week; it is just as grateful to them as it is for us to change our posture after sitting in one position all day. Lumps of soil the size of a hen's egg could be used only in large pots, but sifted soil has been the means of injury to many plants. The *Vallota* is well adapted to parlor culture; he had frequently known it grown by ladies in their parlors better than by gardeners.

Mr. Rand said that the *Vallota*, unlike the *Amaryllis*, should not be dried off, but kept in continuous growth. The trouble is that gardeners attempt to dry them off like the amaryllis.

John B. Moore said, in regard to stirring the soil, that if we do this for an inch or two in depth, common sense would teach us to take away the soil and replace it with new.

Henry F. French asked what was the object of repotting, and whether there was anything analogous to root-pruning in crowding the roots into a small pot.

Mr. Rand replied that there were several reasons for repotting; the first is to furnish new and fresh soil to replace that which is

sour. In repotting some of the roots are broken off, which causes them to branch, as in root-pruning. Some plants, which naturally grow to a large size, are by crowding the roots in pots forced into bloom, and kept within such limits that they can be accommodated in the greenhouse. One object of stirring the soil is its aeration. This is a subject but little understood, but he held that plants receive much nourishment from the air through the roots.

Mr. Hovey would not recommend stirring the soil as a perfect substitute for repotting. If the soil is not stirred the water runs off in one channel, but is diffused through the whole ball when the soil is stirred. He had known camellias which had not had the centre of the ball wet for a year, or even for a longer period. English cultivators recommend driving an iron rod down through the centre of the ball to permit water to permeate. It is also important that the pots should stand level, for if they do not the water will not be equally distributed. For many plants he preferred stirring the soil to potting in a large pot.

Mr. Wilder referred to the remark of Gen. Dearborn, the first president of the society, and one of the best cultivators of his time, that water and air were the two great constituents of plant life.

William Gray, Jr., did not wholly agree with what had been said as to the use of the sieve. He always passes his manure through a sieve. He uses the soil coarse, but would have the manure fine, and mixed intimately with the soil. The essayist had said that the temperature of a room in which plants were grown should rise and fall with the sun, but it would be impossible to live in a room with an evening temperature of 42°, or to wait until the sun raised it to 65° in the morning. He had grown *Livistonas* and *Dracœnas* in a living room successfully, and had brought in azaleas from the greenhouse when in full flower, without injury. The three plants now on exhibition had been thus treated for twelve or fifteen years.

Mr. Wilder agreed with Mr. Gray in regard to the *Livistona* and *Dracœna* as doing well in the parlor, and added that Mr. Hunnewell brings the green Dracæna (*Brasiliensis*) into his parlor in the winter.

Benjamin G. Smith said that he tried window gardening for some time, but so unsuccessfully that he gave it up and built a small conservatory. He used to be very particular to have the

water of the same temperature as the air of the house; but lately had used it directly from the faucet without perceiving any ill effect. He had found great benefit in syringing two or three times a week to destroy the green fly. The floor of the conservatory is half an inch lower in the centre than at the sides, so that the water runs off and the house gets dry very quickly. He uses a small Weathered & Cherevoy's boiler, under which he burns the siftings from the house furnace.

Mr. Rand related and ridiculed a newspaper story of a lady who had a large cactus which she watered with water from the tea-kettle. The next day it had buds, and the next blossoms.

Mr. Hovey spoke of a gardener who advised him to water his cactuses with hot water, saying that he knew a lady who did so with the greatest success. A gentleman in Cincinnati who was famous for raising the finest callas, watered them with hot water. Mr. Rand would agree that orchids and hothouse plants will not bear cold water. Of what use would it be to heat the earth in a bed up to 90°, and then water with water at from 30° to 40°?

Mr. French said that he saw the teakettle taken from the table after breakfast very often, and the water from it poured upon plants quite hot, and it certainly did not kill them.

Mrs. E. M. Gill spoke of a gentleman who boasted of his callas, which he watered with hot water. She did the same, and her callas have flourished.

Robert Manning said that when making a call on our late botanical professor, John Lewis Russell, Mrs. Russell showed him a calla, which had been in an unhealthy condition, and was improved by being watered with hot water.

Mr. Woodford said that the calla was a native of Egypt, and in the Red Sea the thermometer, when plunged in the water, went *down* from 120° to 90°. The Nile runs through deserts where the sand is intensely hot; hence hot water will not hurt the calla.

Mr. Buswell said that when boiling water is poured into a pot it immediately parts with some of its heat to the soil. We know that some seeds require hot or boiling water to cause them to germinate.

Mr. Hovey said that he had turned boiling water on acacia seeds from the Cape of Good Hope. Frost appeared to have the same effect as hot water; he had some amaryllis seed left in a room with the temperature at zero, and supposed they were

spoiled, but they germinated in three weeks. Peach stones and the seeds of our native plants germinate much sooner for being exposed to frost. The effect is the same in both cases — to rupture the fibres or covering which encloses the germ.

Mr. Wilder called attention to the flowers of camellia Mrs. Abby Wilder, exhibited by him, comprising seven different specimens, from pure white to deep pink, confirming his previous remarks in relation to the sports of this variety.

Mr. Rand spoke of a very rare orchid which he had brought in, — *Pilumna* (formerly *Trichopilia*) *fragrans*. The fragrance is very powerful, and more agreeable than that of any other flower with which he is acquainted, and is a mixture of that of *Lilium auratum* and the garden narcissus. This plant has been in bloom a fortnight. It is a cool orchid, but very difficult of cultivation.

The Committee on Discussion announced for next week a paper on "Natural Sports and the Influence of the Stock on the Graft, and *vice versa*."

MEETING FOR DISCUSSION.

Saturday, February 27, 1875.

The discussion was introduced by the following essay: —

Natural Sports, and the Reciprocal Influence of Grafts and Stocks.

BY CHARLES M. HOVEY.

These are subjects of very great interest, and the latter a subject prolific of discussion, and one which can scarcely be dealt with satisfactorily in the brief compass of these essays. Though coupled together for discussion, they are yet somewhat distinct in their nature, and I shall treat them separately, first alluding to "Natural Sports."

And this leads to the question, What is a natural sport? To most horticulturists and cultivators of experience this may

appear a simple question, but by the mass of plant lovers it is not so well understood. A natural sport is a variation or peculiar change of any part of a plant from its normal state. Take for instance the camellia, or japonica, as it is so often called. Here we have the Old Double White (*alba plena*), a Chinese variety, imported into England as long ago as 1739, and since then extensively propagated and disseminated all over Europe and America. Yet it is still the very same flower it was in 1739 so far as we know ourselves, or can learn from descriptions, paintings, or books. It has never been anything else. If, however, you or I had a plant which should, upon one particular branch, show a flower of a different form or color, that particular flower would be denominated a "sport." So, too, if the leaves were to assume a different shape, or the branches some peculiar form, that would be also a sport, because, in either instance, it has departed from its original type. Such a flower or branch is, therefore, a "natural sport," and so considered in these remarks.

It is somewhat extraordinary when we notice the character and importance of these sports, that so little has been written upon the subject. In the very hasty manner in which I have been enabled to look through the works of various authors I find that it is scarcely mentioned at all. Mr. Knight, in his numerous physiological and horticultural papers, published from time to time in the "Transactions of the London Horticultural Society," does not speak of sports. Loudon, in his various exhaustive volumes on trees, plants, and shrubs, has little or nothing to say of them. Lindley, in his "Theory of Horticulture," does not notice them, and M'Intosh, Thompson, and other authors, do not give us any information upon the subject. Indeed it is only in the periodical works upon horticulture, and scattered through many volumes, that much can be learned, and this in the main recorded of only a few particular sports.

When we reflect a moment upon their importance, and consider how much our pleasure grounds and gardens, our greenhouses and conservatories have gained in *recherche* additions through these sports, we are surprised that so little has been treasured up regarding them. The fact that we know so little of the cause of these sports, is probably the reason why the record of their production is all that can be found.

It is only within a few years that they have assumed any promi-

nence, though undoubtedly they have existed for a long period. The very curious variegated trees from Japan, though probably some are from seed, are, many of them, undoubtedly sports, for it is not probable that so many seedlings should be precisely like the parent, except in the color of the leaf. Loudon, in describing one of the very dwarf forms (*Abies Clanbrasiliana*) of the Norway spruce, states that it was said to have been found at Belfast, but, he remarks, that to him "it was very doubtful whether such a stunted variety as this was ever found in a bed of seedlings; we think it more probable that it is a continuation by cuttings of one of those bird-nest-like monstrosities that are occasionally found on all trees;" in reality, a sport, though he does not use that word.

As we have stated, little can be learned about sports in books, and we are driven to form our own conclusions regarding them. That they do take place on original plants there is no doubt, but it would seem that this tendency to sport is greatly increased by continued reproduction from seed.

We have stated that so far as we know the Old Double White camellia has, in nearly a century and a half, never sported. Yet, when we look at that incomparable and most exquisite of all flowers, the *Camellia fimbriata*, a perfect counterpart of the Double White in leaf and form, except that its petals, pure as the driven snow, are as delicately cut as the most delicate of fair hands alone could cut them, throwing a charming fringe around each petal, we think this too, was a sport saved by some observing and enthusiastic cultivator of the Flowery Kingdom, and bequeathed to us as a token of the care which that heathen nation has ever bestowed upon one of the most beautiful handiworks of the Creator.

The azalea is another Chinese plant, which, at the present day, is the most "sportive" of all that we possess; in fact it has become so to such a degree, that a name signifies but little. Sometimes the flowers of striped varieties are all white, sometimes red, and at others parti-colored, and many of our varieties are perpetuations of these sports, some of which continue true, and others go back to the original.

As to the cause of these sports we have little to say. Our only theory is that, having undergone so many cross fertilizations, they have become, as we often say, "somewhat mixed," for the older

varieties of the large flowered, or rather large leaved kinds, of the *Phœnicea* and *alba* type remain very true, and sports among them are exceedingly rare,— indeed, we ourselves do not know of one.

As has been stated, the time to prepare an essay, as well as the time allowed for reading it, has been too brief to do more than to glance at the subject of sports, and bring it before you for discussion. I trust that the few instances I have mentioned of the origin of sports will show you the importance of observation. No doubt many interesting additions might have been made to our variety of plants, had the cultivators of fifty years ago been as numerous or unremitting in their labor as those of recent years. The number now who are on the lookout for every sport is legion, and the yearly additions to our catalogues show that they are not idle.

The Reciprocal Influence of Grafts and Stocks.

Here we approach that part of our essay upon which a great deal has been written and various opinions expressed, and so far as we can learn, with very little additional knowledge gained. The experiments to test the influence of stock and scion must be numerous and continued for many years to arrive at any certain results.

"The influence of the scion on the stock is very limited," says Loudon, "and as far as experience has hitherto gone, it consists only in communicating disease. The only proof of this is the fact of a bud of variegated common jasmine having been inserted in a species without variegated leaves, and having communicated its variegation to the entire plant, both above and below the graft. This, De Candolle observes, is in accordance with the theory of Moretti, that variegation, being a disease, can be propagated in a tree in every direction. We are not aware, however, that there is any example on record of a variegated holly having communicated its variegation to the stock."

The variegation communicated to the jasmine is the only instance that we in our experience know of, except with the abutilon, which is familiar to most of us here. The variegated *Abutilon Thompsoni*, as is well known, communicates its variegation to such grafts as may be inserted upon it, and *vice versa*, the new and fine sorts having been obtained in this way.

The only influence we can trace in all our experiments, extend-

ing over many years, is that a vigorous stock communicates some of its vigor to the weaker scion. The Bartlett pear and Baldwin apple in the course of a century have been grafted on millions of seedling stocks, of every degree of vigor, and probably, if they could have shown it by fruiting, of different qualities. They have also been grafted upon grafted stocks of the very best pears and apples, but to this day they are precisely the same fruits they were a century ago. It is no less surprising than true that this should be so, showing, as it does, a vital power in any plant by which it retains its character so long as it exists.

A thorough knowledge of the theory of grafting, as laid down by various authors, and particularly by Mr. Robert Thompson, will show that it is scarcely possible that there should be any influence whatever, unless that of vigor or weakness of the stock, upon the scion, and whether variegation be disease or not, the only instances of any influence have been the variegated abutilon and jasmine, for the flower of the abutilon continues precisely as it would have been on an ungrafted plant, showing conclusively that the influence is upon the leaf alone, which favors the theory of Moretti that disease can be propagated by grafting.

Time has prevented me from looking up information which might be of value. I have only endeavored to open the subject, thinking that the discussion upon it would bring out facts which the ablest authors have failed to record.

Mr. Hovey illustrated his paper by exhibiting three flowers from one plant of *Azalea punctulata variegata*, as an example of a sport in color, each of the three flowers being of a different color; and a flower of *Camellia hexangularis*, as an example of a sport in the form of a flower, the latter being only a variety of the Lady Hume. Among many instances of recent sports, he alluded to *Achyranthes Verschaffelti aureus variegatus*, and a similar one of *A. Lindeni*, which he had obtained himself and which was now known as *A. Lindeni Hoveyi*. Since attention has been turned to this subject many of these sports have been fixed. The curious conifers from Japan are probably sports. The variegated *Sciadopitys* is doubtless a sport; so also the variegated *Retinisporas* and others; so of weeping and other peculiarly formed trees. All cultivators should look through their beds of seedlings, and seize the opportunity to perpetuate such variations as are worthy. The pears with striped

fruit, like the Louise Bonne de Jersey Panacheé, and others, are undoubtedly sports, as they differ only in the color of the skin. Our definition of sports, however, applies only to bud variations. Mr. Hovey concluded with the remark that if what he had said induced cultivators to perpetuate such sports as were valuable for their beauty, he should feel repaid for writing his essay.

E. S. Rand, Jr., alluded to Mr. Hovey's mention of *Abutilon Thompsoni*, and inquired whether *A. vexillarium* had ever varied.

Mr. Hovey replied that variegations of *A. megapotamicum*, *venosum*, and *vexillarium* had been produced by grafting on *A. Thompsoni*. He did not know of any variegation of *A. insigne*, but would try it. He did not fully believe in Moretti's doctrine that these variegations are the result of disease. All our fruits have been grafted over and over again, but do not vary at all except in strength. A very strong stock will often destroy a graft of a weak kind inserted in it. This effect appears to be owing to difference in the character of the sap vessels,— the smaller vessels of the graft are unable to take all the sap brought to them by the larger vessels of the stock. It has been said that grapes which are liable to crack, like Josling's St. Albans, may be prevented by grafting on certain stocks, but the experiments which have been relied on to prove this are untrustworthy, on account of the dissimilar conditions under which they have been tried.

In answer to an inquiry by the President concerning the camellia Mrs. Anne Marie Hovey, well known as producing flowers of many different shades, Mr. Hovey said it is now twenty years since this variety was raised. He has now at least seventy-five large plants, not one of which has been propagated with reference to the place whence the scion was cut, and not one of them, to his recollection, unless it may be very small ones, only two or three years old, has failed to show the variation of the parent, sooner or later. The camellia is generally propagated by grafting, except a few strong-growing kinds, the stocks being raised from seed or cuttings.

Mr. Hovey alluded also to the Eliza Tailby rose, a sport of the Isabella Sprunt, which was itself a sport from the Safrano, as described in the Transactions of the Society for 1874, Part I, pp. 40—42.

President Parkman spoke of the Moss Rose as one of the most remarkable of all sports. It is well known to be a variation of

the cabbage rose, and sometimes returns to the original form, presenting a smooth calyx. He had known the White Four Seasons, one of the mossiest of all, to sport back both in regard to color and mossiness and to become smooth and rose-colored.

Marshall P. Wilder said that he fully believed that these sports had been the means of giving us some of the most beautiful things we possess. His experience confirmed the theory that self-colored sports are made permanent by grafting off, and do not vary. He exhibited two sports of his seedling camellia, Mrs. Abby Wilder, which he had named Abby Tryphosa Wilder and Grace Sherwin Wilder, the former of which had been sent out in Europe as a new variety under the name of Queen of Beauties. Of one of these the graft was taken from the parent plant twenty-one years ago, and of the other sixteen years ago, and neither has varied. Particolored flowers, especially, have in them the elements to produce self-colored sports, but self-colored sports become permanent when grafted off. Mr. Hovey does not know whether a flower of a given color, from the Mrs. Anne Marie Hovey might not become permanent. He would confirm Mr. Hovey's advice to preserve all beautiful sports.

Mr. Hovey said that the first flower produced by the Mrs. Anne Marie Hovey was a striped one. The top was inarched off twenty-one years ago, and is now twelve feet high and six feet through. This sport appears to be different from any other. They may be capable of being fixed, but they have not been in the course of twenty years. The only two-colored camellias at that time was *pœoniflora*, which was probably one of the parents of this.

Mr. Wilder said there was another instance of a camellia which varied like Mr. Hovey's seedling, and was quite similar in color and in its sports, — the Teutonia, raised about forty years ago by Mr. Gruneberg, at Frankfort-on-the-Main, which he exhibited at Vienna with nine variegated flowers on the plant, and for which he received a gold medal at Vienna and also one at Frankfort. Mr. Wilder said he would like to have Mr. Hovey take a graft from a shoot producing a white flower, and another from a shoot bearing a rose-colored flower, and graft them into separate stocks, marking them carefully to see whether the colors would be permanent. The plant which he bought as the Mrs. Anne Marie Hovey had not sported with him, as with Mr. Hovey.

In answer to an inquiry by William Gray, Jr., Mr. Wilder said

that if the self-colored graft had been left on the plant, the color would have been permanent, the same shoot continuing to produce the same self-colored flower.

William Gray, Jr., said that one remarkable sport had not been mentioned,— the purple beech. This originated in Germany from a sport, and all others have been raised from it.

Mr. Hovey remarked that the difference in purple beeches can be accounted for by their being seedlings; the true purple can be propagated only by grafting.

Mr. Wilder said that the most curious thing in regard to sports is that the descending sap of the variegated abutilon should cause variegation in the stock of a green variety.

Mr. Gray said this was the best proof of the influence of the graft on the stock, as we know that disease can be propagated by grafting.

Mr. Hovey said that he was not certain that the variegation of *Abutilon Thompsoni* was owing to disease,—it might be only a want of chlorophyll. A French writer had accounted for the brilliant colors of autumn leaves by the chemical action of acids in the leaves. Mr. Thompson has shown that it is almost impossible to influence the stock by the scion. If you cut within an eighth of an inch of the junction of the pear and quince in a dwarf pear tree, you will get a pear shoot above and a quince shoot below.

Mr. Gray said that it was immaterial whether variegation is a disease or a want of vitality. Tricolor geraniums, when grafted on green stocks, sometimes throw out a variegated shoot below the graft. Many of the silver variegated pelargoniums which show leaves wholly white, are too sick to live.

James Cruickshanks related an incident in the visit of a gentleman to the seat of a Scotch nobleman, where he saw some very handsome variegated sycamores, and when he spoke of their beauty to the nobleman the latter replied that they reminded him too much of his own diseased body.

E. W. Buswell inquired whether variegated leaved plants are not less vigorous than those with plain leaves.

Mr. Hovey replied that they were sometimes, but not always, and that this was the only reason why he had not concluded that variegation is a disease.

President Parkman remarked that the variegation of the ash-leaved negundo, and similar variegations were commonly attended

with weakness. In his view variegations of the begonia, etc., came in a different category.

Mr. Hovey remarked that, on the other hand, the variegated agave and the *Phormium tenax var.* are as strong or stronger than the plain.

Mr. Buswell said that the point which he desired to ascertain was whether a plant is *necessarily* weaker because variegated.

Mr. Hovey thought it might safely be set down as a general rule that variegated plants are weaker than the plain, like the negundo, already mentioned, and the variegated horse chestnut, but there are exceptions.

Mr. Gray agreed with Mr. Hovey, and mentioned as an exception the golden yew, which is hardier than the green.

Henry F. French desired to speak as one of those who are not so well versed in horticulture as the gentlemen who had preceded him, for he found that such could sometimes contribute to these discussions, at least by drawing out those who have more experience. He thought that while we cannot tell why one plant should bear a red flower and another a yellow one, we could not expect to account for sports. There is no difficulty in getting evidence for one side of a theory, if you will only leave out the other. Mr. Hovey has spoken of the Baldwin apple as unchanged by the thousands of stocks on which it has been grafted, but his observation had been that if you buy them by the hundred barrels from different localities, you will get apples so different, that you can hardly recognize them as the same variety. Sports of the Baldwin have also been exhibited here, some of them resembling the Roxbury Russet much more than the Baldwin. To his mind there was sufficient evidence that the Baldwin can be affected by the stock, and also of the existence of the Sweet and Sour apple, with one side sweet and the other sour, which had been doubted by some. By cultivating plants in a particular way you can change the color; the hydrangea, for instance, which by the application of charcoal, becomes purple instead of pink.

Mr. Hovey remarked that it is well for us to bear in mind that fruit does not often show the influence of a mixture of pollen the same year. Squash seed often varies when the fruit is apparently genuine. We fertilize the camellia, but see no change in the flower. The variations caused by cultivation are not permanent, for scions taken from a neglected tree and well cultivated, will produce the finest fruit.

C. M. Atkinson said that in 1840 there were no spotted calceolarias, but in that year two appeared. The raiser was very much freckled in the face, and it was said that he had produced these varieties by looking at them. Perhaps Mr. Hovey had not been able to make up his mind whether he would have a white or a pink camellia.

A. P. Calder had some lilac flowers on exhibition, to which he wished to call attention. They were of the common purple variety, but perfectly white, though they had not been grown in the shade, but in the direct rays of the sun. The plants were taken up and heeled in last autumn, and put into the greenhouse four weeks ago to-day. He had also forced what he purchased for the true Persian lilac, but the flowers had come purple. He had forced the common kind the last two years under the same treatment, and had always succeeded in producing white flowers.

Mr. Hovey said that the French grow the lilac in the dark, because they use the Persian, which has larger clusters and smaller foliage. He had forced lilacs some years ago and found it not difficult, but there was then no taste for them as in Europe. The lilac is not easily started into growth,— about every other winter you will see a paragraph in the paper stating that "the remarkably mild weather has started all the lilacs," but the buds always present a swollen appearance after a period of warm weather in winter, though they do not make any growth. Mr. Hovey had taken a lilac out of the ground and kept it in good heat from October, and it never started an atom until March, while plants kept in a cellar until February started immediately on being brought into heat.

Mr. Gray referred to Mr. Robinson's account of lilac forcing in Paris (Parks, Promenades, and Gardens of Paris, p. 537).

Mr. Calder said that his experience agreed exactly with Mr. Robinson's account, except that darkness was not necessary, nor so much heat. The Persian lilac comes so small that it is of little value.

Mr. Hovey called attention to the *Bougainvillea spectabilis*, of which a specimen was on exhibition, as very beautiful, easily grown, and almost hardy, being grown out doors in Italy. A late number of the "Gardener's Chronicle" gave an illustration of a large plant in India, which had covered a tree forty feet high. Mr.

Hovey has a plant now coming into bloom, which covers a space forty feet square, with many shoots eight feet long, which will soon be covered with the beautiful mauve colored bracts. It is one of the finest plants for a cool conservatory, and is entirely free from insects.

Mr. Wilder remarked that *B. glauca* makes a larger tree, but does not flower so well.

The President announced that at the next meeting E. S. Rand, Jr. would read a continuation of his paper on Window Gardening, giving the names of the plants best suited for parlors, with remarks on their culture.

BUSINESS MEETING.

Saturday, March 6, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President Parkman in the chair.

The following named persons were elected to membership:

Milton J. Stone, of Brookline.
Mrs. Rebekah L. Fay, of Chelsea.
Francis H. Lee, of Salem.

Meeting dissolved.

MEETING FOR DISCUSSION.

The following paper, in continuation of his former essay, presented at the meeting on February 20th, was read by the author:

Parlor Plants. II.

BY EDWARD S. RAND, JR.

We have said that one great reason of failure in the culture of window plants is the choice of unsuitable species or varieties. There are many plants, indeed a large proportion, with which

parlor culture is an impossibility. We are not able to supply the essential wants of the plant, and it sickens and dies. Yet there are many, very many plants, which may be most successfully grown, and some of these we propose to mention.

We must, however, bear in mind that very few plants will succeed if they are removed at once from the warm, moist atmosphere of the greenhouse to the parlor or living room; the change is too great, and the plant receives a shock from which it seldom recovers. Plants from a greenhouse should be gradually hardened off, and then will not suffer. Of the tens of thousands of pot plants sold from the street stands in spring, probably not one in ten survives. These plants are forced into bloom in small pots, have no constitution, and very few of them ever give another flower.

Plants taken from the garden in autumn to winter in the house should be carefully potted early in September, hardened off in the shade out of doors, and removed to the parlor when the nights become frosty; in warm sunny days they should have plenty of fresh air. Treated thus we may have autumn and early winter bloom, whereas if we delay the autumn transplanting until the plants are checked by frost, they seldom give bloom till February.

Our mention of species and varieties suited for house culture must necessarily be brief, and will be confined to winter plants. There are many flowers which do very well in rooms in summer, and which are valuable for those having no garden. Many of the plants we mention are very constant bloomers, and the foliaged species are ornamental both in winter and in summer.

Roses. — These charming and popular flowers are not well adapted for house culture. The dry air affects most varieties unfavorably, and they rarely give satisfaction. Those with very double flowers seldom expand their buds. There are, however, a few old varieties which were formerly more common than at present, and which do well and are worth growing.

The best is *Sanguinea*, a very bright, semi-double variety, flowering in clusters, and always in bloom.

Agrippina is a good pot rose.

The *Pink Monthly*, if grown to a large plant, is seldom out of bloom.

Jennie is a very fragrant tea, and though not a first class rose is well worth growing.

Safrano and *Pauline Labonté*, two of our best teas, do well if the air of the room is kept moist and not too hot.

Roses in the parlor need frequent washings or showerings, good drainage, and frequent stirring of the surface soil. If the earth in the pots is sour and sodden they soon become sickly.

Abutilon.— All the species thrive in the parlor, except perhaps the red flowered (*A. insigne*), and even this we have seen doing well. The best is the common *A. striatum*, which is always in bloom, is a very clean plant, and of symmetrical growth.

Many species are tall growers, and are too large for common cultivation; where space and sufficient light can be given, they form fine bushes which give a profusion of bloom.

A. Pattersoni or *Santana* is a very free blooming, large flowered variety of compact growth.

A. Verschaffeltii has bright sulphur-colored flowers in great profusion.

A. Thompsoni and *A. vexillarium variegatum* are valuable for their bright foliage; the former, however, requires more heat than most kinds.

A. vexillarium has charmingly contrasted flowers of red and yellow.

A. Boule de Neige is a new dwarf, free flowering, white variety, which promises to be very valuable.

All abutilons require a rich, light soil, with good drainage, and plenty of water and light. They thrive in the dry atmosphere of living rooms better than most plants, and with very little care give fine foliage and abundance of bloom.

Cuphea.— For constant bloom there is no better plant than the so called "cigar plant" (*C. platycentra*). It has bright, cheerful little flowers, grows freely, and never seems to become sickly.

Cyclamen. — The varieties of *Cyclamen Persicum* are all well suited for parlor culture. A neater, more attractive plant, it would be difficult to find, and its floriferous property is an added recommendation. The tubers should be started into growth in October, watered moderately until in active growth, then more freely. The more light and sun the better. Seedling varieties are easily obtained, and are very cheap; in color they vary from pure white to deep rosy red.

Cactus.— These are mostly summer bloomers, and all do well with but little care. There is, however, one winter blooming species, *Epiphyllum truncatum*, which is a capital window plant. Give it a light, not very rich soil, with good drainage, be careful not to overwater, and it will not fail to give satisfaction. In the

species the flowers are pink, but in the many varieties, all of which do equally well, we have many shades of red and violet, and some dazzlingly beautiful flowers. The best are *Russellianum*, *violaceum*, *tricolor*, *salmoneum album*, and *cruentum;* but all are good and worth growing.

Oxalis. — Of this charming family all the species commonly found in greenhouses may be well grown in the parlor. They should be started into growth in the room and not taken from a greenhouse. The foliage of most is neat and clover-like, and that of some beautifully cut. The flowers are pink, white, and yellow.

O. versicolor is a very pretty basket plant, beautiful in foliage, bud, and flower.

The common yellow species (*Ocernua*) is very fragrant and free blooming.

O. luxula and the variety *alba* have large pink or white flowers.

O. floribunda, both pink and white, is never out of bloom, winter or summer. Soil, rich and light, plenty of water when growing, gradually lessening the supply as the plants dry off, and perfect rest in summer until the time comes for repotting and growth.

Triteleia. — This little hardy bulb (*T. uniflora*) gives plenty of flower in a sunny window. Treat the bulbs as prescribed for *Oxalis*. The flower varies from pearly white to blue, and continues long in beauty. The odor of garlic which pervades the plant is not perceived unless the blossoms are gathered. Bulbs cost only a few cents each. It is one of the best and most easily grown window plants.

Chinese Primrose. — A plant of easy culture, very free blooming, never infested with insects, and always beautiful.

Young plants raised from spring sown seed will make large blooming plants by autumn. The soil should be rich and light, and the plants should have as much sun as possible. The same plant will bloom from November to May, — indeed a fault of the plant, if fault it has, is that it often blooms itself to death. The double varieties are not as desirable as the single for house culture, and the fern leaved kinds, although elegant in foliage, possess no remarkable blooming qualities. This primrose is one of the best of window plants.

Pinks. — Many of the monthly pinks do well in the parlor. The plants should be lifted from the ground in September, and grown in a light airy room. They will not bloom freely until after

the turn of the year, but when they once begin will continue for a long time.

The three best in color are *La Pureté*, red; *Astoria*, yellow; and *President De Graw*, white.

Smilax.— This pretty vine (*Myrsiphyllum asparagoides*) may be very easily grown as a window plant, and will flower and fruit freely. Pot the tubers in autumn in rich, well drained soil, and give the plants plenty of light, with very little heat. The chief cause of failure with this plant is the heat of the room. Train the delicate shoots to a flat trellis, or let them run across the window on strings. Dust the foliage if it becomes dirty, and give air on every day when the temperature is above freezing.

Cypripedium.—One of the Lady's Slippers, *C. insigne*, is a good parlor plant. The soil should be coarse peat and fine sand. Keep the plant always moist, but never wet. It will stand any heat, but suffers from cold. The curious flowers are produced in December, and last in full beauty two months.

Pelargoniums.—The Zonale varieties are best for window culture. A rich well drained soil and plenty of sun and light are the requisites for success. If kept in the dark the plants soon become drawn, and if not frequently turned they grow one sided. The aim should be to get short, stocky growth. The varieties with variegated foliage are all pretty, and generally do well in the parlor, but they are very inferior in flower.

The species with scented foliage, familiarly known as the "rose," "lemon," "apple," "clove," "nutmeg," and "peppermint," "geraniums," are all worth growing; in flower they are inconspicuous; many of the varieties of the rose geranium have beautiful, finely cut foliage. The large flowered pelargoniums are generally unsuitable for window culture, though we have sometimes seen them well grown and bloomed.

Richardia.— The Calla Lily (*R. Æthiopica*) is one of the best window plants. Give a rich soil and plenty of water,— indeed, the plants may stand in water without injury. In spring, plant out the tubers, repotting again early in September. The dwarf variety is desirable. The species with spotted foliage must be wholly dried off in summer; its only beauty is the foliage, the flower not being especially handsome.

Azalea.—The varieties of *Azalea Indica* and *Phœnicea* bloom freely as window plants. The soil should be peaty loam and sharp

sand. The reason why azaleas so seldom bloom well in parlor culture is that care is not taken to ripen the young growth which succeeds the flowers, and in which the buds are formed for the next year's bloom. Unless the air of the room is kept moist, azaleas are apt to drop their foliage. The species, white and purple, are better for house culture than any of the varieties, and of the varieties those with large foliage succeed better than the fine leaved kinds.

Camellia.— If the room is kept cool and without furnace heat camellias may be bloomed in the parlor as well as in the greenhouse. The chief difficulty is the dropping of the flower buds, caused by dry, hot air. Do not attempt to force them, give plenty of fresh air on mild days, and there will be a fine spring bloom.

Orange.— Orange trees, where there is room for them, may be successfully grown; they require the same general culture as camellias, but will stand more heat. Cleanliness of the leaves and branches is of first importance. They bloom in spring and seldom fail to set and ripen fruit. The Chinese dwarf oranges are easily grown and flower and fruit freely.

Lemon trees do not flower or fruit as freely as the orange, and are taller growers, and less suited for house culture.

Pittosporum.—This old fashioned plant, *P. Tobira*, is now very seldom grown. It is, however, to be recommended; the foliage is hard and coriaceous, well adapted to stand a hot and dry atmosphere; the flowers are pretty, freely produced, and deliciously fragrant. It needs but little care, is seldom sickly, and thrives in any exposure.

Jasmine.—The Indian Jasmine (*J. revolutum*), is a charming, free flowering species, with rich, dark green foliage, and fragrant yellow flowers. It thrives in the parlor, and well repays the trouble of growing. Soil a light peaty loam, good drainage, and plenty of water. We have seen one plant of this species entirely filling a large bow window, and bearing hundreds of flowers.

Tropæolum. — The varieties of *Tropœolum minus*, will often make a window very gay with a profusion of bright flowers, in spring. The plants, during autumn and early winter, should have all possible light, and be kept rather dry. They will not grow much until after January; then, as the days become longer, they will make long shoots with flowers in the axil of every leaf. A pretty mode of growth is to train the shoots back and forth across the window; the flowers thus show finely from outside.

Heliotrope. — This is difficult to transplant, and if taken from the garden in autumn, gives very little satisfaction for winter blooming. The best way is to obtain a young plant in spring, pot it on during the summer, and by October it will be in fine blooming condition. With this plant, as with many others, the more sun and light the more bloom.

A great cause of the failure to bloom hard wooded plants well in the parlor is neglect of them during the summer. Parlor plants are too often, as soon as the weather gets warm, set out on a piazza, or under trees, or in a back yard, exposed to parching suns and drying winds, irregularly watered, and, in fact, generally neglected until autumn comes again. The wonder is how so many survive and why they bloom at all. Let us bear in mind that it is in the summer that these plants prepare for the winter bloom, and that they need care and attention then quite as much as in winter.

Thus have we given a list of some of the plants suited for window culture. We have purposely omitted mention of the different species of Dutch Bulbs, such as Hyacinths, Narcissus, etc.—of foliaged plants, such as Dracænas and Begonias, some of which do well—of Ferns, of Ivy, and of the large tribe of succulents, many of which are very ornamental; also summer blooming plants,—Hoyas, Fuchsias, Vallota, and a host of others. The list is quite long enough for selection.

We cannot each of us grow all, but each can choose his plants from those mentioned, and with care bestowed understandingly, there is little fear of failure. We trust more attention may be given to this mode of culture, and that, as is already done in England, prizes may in future be offered for the best specimens of window grown plants.

Charles M. Hovey, alluding to Mr. Rand's remarks on seedling cyclamens, said that the plant is propagated only by seed. People see the fine plants exhibited here, and wish to secure the same variety, but they can do it only by getting the identical plant. They have been propagated by cutting up the bulbs, but such divisions make very poor plants. The seedling plants are likely, but not certain, to be similar in color to the parent. In answer to an inquiry as to the best fertilizer for window plants, Mr. Hovey said that guano was mentioned at a former meeting, but less powerful fertilizers like the Brighton, or other preparations

are better. One ounce to a gallon of water, is sufficiently strong for any plant, and this should be used only once a week or fortnight. He knew ladies who cultivated Cambridge Pet, Perfection, and other fine flowered pelargoniums in their windows better than they are generally grown in greenhouses. *Macranthum*, an old variety, succeeds as well as any of the scarlets. It has a somewhat coriaceous foliage which does not gather dust like the downy leaved kinds, and produces clusters of flowers as large as any of the ordinary azaleas. It is figured in Sweet's "Geraniaceæ," vol. 1, No. 83.

President Parkman asked why *Daphne odora* was omitted, and Mr. Rand replied, "from sheer neglect."

W. C. Strong asked why *Coronilla glauca* was omitted, but though Mr. Rand thought it very beautiful in the greenhouse, he had never tried it as a parlor plant.

A. P. Calder said that he had used saltpetre in the greenhouse with excellent effect, in connection with a solution of cow dung. It heightened the color of violets, and was also excellent for roses. He dissolved a small handful in eight or ten gallons of water, and applied about once a week, but it must not touch the foliage. It has the desirable property of improving the color of flowers without stimulating the growth of plants. His experience in using it as above described, was on strong plants growing in the ground; on weaker plants, or those in pots, it should be much more diluted.*

Henry F. French wished to know whether greenhouse cultivators were in the habit of using commercial fertilizers, or trusting to the ordinary sources of manure.

Mr. Rand replied that in greenhouse culture the fertilizer generally used is cow manure in a finely divided form. Commercial fertilizers were seldom used.

P. Brown Hovey said that James Comley used saltpetre in his greenhouse with good effect, at the rate of a handful to a barrel of water, applied not oftener than once a month. In planting gladiolus bulbs, he opened a drill four inches deep, and strewed in saltpetre, at the rate of a handful to twenty feet in length, and chopped it into the ground, so that it should not come in direct

*The Editor feels it his duty to urge the greatest caution in the employment of so powerful a stimulant as saltpetre. Among the various methods of using it, mentioned in this discussion, the *weakest* solution is the *safest*.

contact with the bulbs, and though small when planted, they grew to an extraordinarily large size.

C. M. Hovey said that it was seldom that cultivators of parlor plants would have occasion to use any fertilizer. Ordinarily, plants well potted in autumn do not fill the pots so as to need fertilizers, but deep rooting plants, like abutilons or chrysanthemums, when the pots are filled with roots, may need them ; or late in the season, when the soil is partially exhausted, plants may be benefited by the application of some fertilizer to keep them in continuous bloom. Mr. Hovey repeated the remark made at a previous meeting that stirring the soil in a pot was often preferable to applying a fertilizer, unless it was used very cautiously.

Mr. Strong suggested the contents of the wash-tub as a fertilizer.

President Parkman asked whether there was not danger of the grease in soapsuds forming a surface coating which would prevent moisture from reaching the soil.

C. M. Hovey replied that the stirring of the soil would prevent this. He added that the subject before us regarding a selection of plants does not admit of much discussion, but he would enforce the fact that azaleas and camellias must be kept cool in the early part of the winter. A chamber or kitchen, where the temperature does not rise above 40° or 45° at night, is much better than a living room where it is usually kept at 65°, and may rise to 70° or 80° in a warm day and the buds cannot possibly be kept on. When the public learn to look at the stout, short jointed plant, without flowers, as preferable to a weak, slender one with a cluster of blossoms at the end, and to purchase such for parlor culture, they will succeed much better than they do now. They should also learn the distinction between greenhouse and hothouse plants.

Mr. Rand objected to camellias in kitchens, — his experience has been that kitchens are often nearer 100° than 40°.

Mr. French inquired about the cultivation of ivies. Some have an idea that they should be turned out of the pot in summer. Some think they should be exposed to severe frost, while others would not expose them to frost at all.

C. M. Atkinson replied that the ivy is a native of the Canary Islands, and, though acclimated in England, will do very well without frost.

It has been said that the cyclamen can be propagated only by seed, but he saw at North Easton plants as big as a hat which had

been propagated by cutting the bulbs in four pieces, and only one was lost out of thirteen or fourteen.

He had used saltpetre at the rate of a teaspoonful to four gallons of water, with good effect, but would use it as carefully as gunpowder, and then only for certain classes of plants. A safe criterion of its strength is to take a drop of the solution on the finger and taste it: if it has the least taste it is strong enough.

He had found the safest and simplest manure for a plant after it has filled the pot, to be liquid manure made by putting a two bushel bag of horse or cow droppings, according to the nature of the plant for which it was to be used, but generally cow, in a hogshead of water, and using when the water got the color of tea. A French writer lately stated that he had renewed old mushroom beds by such an application. Oldaker did the same thing forty years ago. Mr. Atkinson preferred cow manure for camellias, and when he used horse manure preferred it in a fresh state. For azaleas he used "Standin's Gardener's and Amateur's Friend," an English preparation. He had never known azaleas injured by liquid manure, and had found soot water excellent.

To come back to parlor culture, he had never known good plants raised in a room lighted by gas and warmed by a fiery dragon in the cellar in the shape of a furnace, but when the plants were in a bay window which was shut off from the rest of the room, they succeeded. He had known two old women raise scarlet geraniums that would make a gardener's mouth water. He advised cultivators of plants in parlors to keep the leaves well washed, but to avoid liquid manure.

Mr. Wilder remarked that Van Houtte, the great Belgian cultivator of azaleas and other greenhouse plants, uses no other fertilizer than Scheldt water and cow manure. In regard to the propagation of the cyclamen, thirty-five years ago the system generally used was by cutting up the bulbs.

C. M. Hovey agreed with Mr. Atkinson as to the value of liquid manure, but the preparation of it from horse or cow dung was difficult for city cultivators. He had heard of a lot of sickly camellias which were top-dressed with manure and watered, and they soon recovered. Horse manure is of a heating nature, and cow manure is cooling. He applies old, decayed manure to his camellias that have been planted out, and digs it in. The method of propagating cyclamens by cutting up the bulbs is not satisfactory.

William Gray, Jr., had used liquid manure with very satisfactory results. As Mr. Atkinson had said, the secret is to use it very weak, and only after the pots are full of roots. He had tried solutions of guano and of ammonia, but preferred cow manure, of which he placed a bushel in his cistern and added more from time to time as the strength became exhausted, cleaning out the cistern once or twice a year. If too strong he diluted it. He found that this affected the flowers mainly, while guano affects both flowers and foliage. Pelargoniums will show the effect of liquid guano in forty-eight hours. You can water them with a weak solution of cow manure without the plants stopping flowering and running to wood.

James Cruickshanks said the best show of ivy he had ever known out of doors in this climate was on a brick house in Charlestown, the whole end of which was covered; but it was killed to the ground in the winter of 1857. In the city of Brooklyn whole houses are covered with it, and it keeps as green through the winter as in summer. The chapel at Oak Hill Cemetery, Georgetown, D. C., was also covered with a fine growth of ivy, but this was much injured by the severe cold of the last winter.

Mr. Gray said that he cultivated ivy out of doors for edgings to walks, and when covered in winter it thrives well, but in the house, without constant care, it becomes covered with scale.

Marshall P. Wilder alluded to a visit to the ruins of Kenilworth Castle, a few years ago, where he saw the old dilapidated walls covered with ivy, and measured the stem of one of the largest plants, which he found nearly six feet in circumference.

F. L. Harris had on exhibition flowers of *Clematis indivisa*, which, he said, is a native of New Zealand, and though introduced into England nearly thirty years ago, is quite new here. It is believed that the pure white flowers will prove valuable for commercial purposes, such as bouquets, wreaths, etc. In England it is largely cultivated as a greenhouse climber. It requires a cool temperature, say 40°, and after flowering should be pruned liberally, thinning out and shortening the long shoots, so as to produce a supply of young wood for the next winter.

MEETING FOR DISCUSSION.

Saturday, March 13, 1875.

Previous to the opening of the discussion the President remarked that the meetings had acquired rather a conversational character, and that it would be better to adhere to the rules, which were again read. He added that it would be difficult to enforce a literal compliance with the rules without interfering too much with the liberty of discussion, and he therefore trusted that all would conform to the spirit of the rules, and that all who were able to contribute any information would take part, and make the discussions as general as possible, as there is abundance of material in the society for an interesting discussion on any horticultural subject.

The following paper was then read by the author: —

Orchids for Greenhouse Culture.

BY JAMES CARTWRIGHT.

It is a great mistake to suppose that because a plant is an orchid it is necessarily of difficult culture.

In growing orchids, as in fact with every class of plants, there are certain rules to be observed, and these rules in the case of orchids are not difficult of application, nor hard to learn. Some orchids require a hot, moist atmosphere; others do very well with cool culture, while to some a high temperature is sure death.

While as yet our experience in orchid culture is limited, we can safely say that any one who has a forcing grapery or a rose pit can grow many fine orchids successfully. The culture necessary for forcing roses for the market is just what is required for growing some of the choice winter flowering orchids.

While these are always beautiful in flower, there is another aspect in which a florist can regard them, — that of a profitable investment, for the flowers always bring good prices in the market. While the multitude are satisfied with rose buds, heliotrope, and violets, there is a large and increasing class who are willing to pay liberally for the choice and beautiful, and by this class orchid flowers are appreciated.

We have been somewhat successful in growing several orchids,

and purpose to give descriptions of a few of them, with notes of their culture.

Cœlogyne cristata. — This charming plant is a native of the hills of India, and does not require a high temperature. The pseudo-bulbs are roundish and somewhat wrinkled; the leaves long, glossy green. The flowers are pure white with a crest of yellow, or nearly perfectly white; they are produced in drooping racemes in mid-winter, and last very long in perfection. It is usually grown in a rose pit or greenhouse. We grow them in peaty loam, mixed with crocks broken fine to keep the loam open and porous; the pot is filled one third full of drainage. They require plenty of water in their growing season, which is from the time they have done flowering to the beginning of September, when we give them less water—only enough to keep the plants from getting dry. During their season of rest, they should be kept in a cool place until their flower spikes begin to show, which will be in December. They require a sunny place to bring the flowers out.

For cut flowers this is one of the most useful of orchids, as it is desirable from its pure rich color, and it is to be recommended for its very free blooming qualities. Very small plants will give an abundance of bloom, and as it increases rapidly a good stock may soon be obtained from a few plants.

Lycaste Skinneri. — This very showy, free growing plant is a native of Guatemala, and has now been in cultivation more than thirty years. It is one of the most valuable plants for the gardener, as it is easily grown, flowers freely, and the blossoms are large and very showy. They also last many weeks in full beauty, and remain in perfection long after being cut. This species, when it becomes more common, will be popular as a window plant, for it requires little heat and bears a dry atmosphere more readily than most orchids, although the plant should never be allowed to get dry even when it rests.

The flowers are from three to six inches in diameter, the sepals and petals pure white, but varying to many shades of rose; the lip is almost covered with spots and streaks of carmine. The plant will often throw half a dozen flowers from one bulb.

The soil should be fibrous peat, but we have seen the plants doing well in common loam, with good drainage. After flowering, rest the plants until they begin to grow, then give them heat and plenty of water. Shade them from the direct rays of the sun, and

as the growth matures lessen the supply of water. This plant grows well in a forcing grapery, under the shade of the vines, or in a greenhouse that has shade.

Dendrobium nobile. — This is one of the oldest and one of the best of the Dendrobiums. It is a native of India, and indispensable in every orchid house, as it will give more blooms in proportion to the space it occupies than any plant we know.

The flower is white shaded with lake, and with a rich purple or lake lip, and exquisitely fragrant. The plant begins to make its growth immediately after it has done flowering, and continues till late in summer. It should have plenty of water during its growth. We use a watering-pot with a rose, so as to water all the plant; this we do several times a day, until its growth becomes mature, when we give less water. When the nights get colder, they require but little water, and may be exposed to the sun, but while they are growing we give them shade under some large plants of some kind.

While they are at rest a cool place is the best for them, say about 50°, until the flower buds are well developed, which will be in the early spring. If the plants are kept too warm in winter they start to grow and not to flower. The best soil is a mixture of peat broken in pieces about the size of walnuts, sphagnum moss, and broken crocks or charcoal; the plants should be set well up above the pot.

There are many of the orchids which can be well grown in a rose pit or greenhouse. Any one who will try those we have recommended will hardly be satisfied with these alone. There is no reason why the culture of orchids should not become a source not only of pleasure, but of profit.

Edward S. Rand, Jr., said that he was very glad to hear this paper on greenhouse orchids, for Mr. Cartwright was the first of our professional florists to undertake the culture of orchids. Those mentioned are all adapted to greenhouse culture, but the number can be largely increased. Mr. Rand went on to speak of the orchids already mentioned and others, illustrating his remarks with specimens exhibited by him, which received the prize to-day. The *Dendrobium nobile*, though flowering abundantly, had more than twice as many flowers two weeks ago. After the flowers had faded last year, the plant was kept in a house with the temperature at about 50° by night, and never raised above that point by fire

heat by day or night, though the sun heat raised it to 100°. The plant was liberally watered while making its growth, which it does in two ways,—first, by producing young plants from the sides of the pseudobulbs, and, second, by shoots from the base. After completing its growth, it was hung up in the full heat of the sun, and had no water until September. At about Thanksgiving time it was taken back into the orchid house; if taken in too early the flower buds produce shoots and no flowers. If water had not been withheld it would not have flowered at all, but would have sent out shoots and roots from every joint, which, if potted, would in a year have made strong plants. All orchids must have rest or they will give no flowers. In their native countries there is a dry season when they all look as if dry and dead.

The *Lycaste Skinneri* is very showy in flower, and almost imperishable. It can be grown in winter, and if kept shaded while in growth, it perfects very large bulbs, and will give fine bloom. *Cœlogyne cristata* requires about the same treatment as *Lycaste Skinneri*. It should have plenty of water. *Oncidium flexuosum* is well adapted to common cultivation.

Many orchids, if brought into the parlor when in bloom, will last in full beauty three to six weeks, and Mr. Rand exhibited a spike of *Oncidium luridum guttatum*, from a plant which had been in bloom for six weeks, with more than two hundred flowers. Also a small plant of *Epidendrum machrochilum*, growing on a block of wood, as an illustration of the manner of growth of many orchids; and a fine plant of *Dendrochilum glumaceum*, which, however, is not a cool orchid, but one of the most desirable for its grace, freedom of growth, beauty of foliage, and delightful fragrance.

President Parkman said that the subject of hardy native Cypripediums was closely connected, and called on Thomas P. James for information concerning them.

Mr. James replied that he had not himself grown them, but had seen different species under cultivation at the Botanic Garden in Cambridge.

Waldo O. Ross saw *Cypripedium spectabile* flowering freely in the greenhouse at Mr. Menand's, in Albany, a year ago.

Mr. Rand said that though it might be grown in greenhouses it is hardly worth while, since it does so well out of doors. It is a native of northern Maine and Canada, and perfectly hardy. He had had plants two feet high with two or three flowers on a spike.

It does well in peat soil; there is no better place for it than in a rhododendron bed; and it should have plenty of water in summer. It is the finest of all our native Cypripediums.

John Robinson had grown *Cypripedium arietinum* and *C. spectabile* successfully, but *C. acaule* had not done well with him.

President Parkman had found *C. parviflora* to do best.

E. H. Hitchings asked the president what success he had had with *Calopogon pulchellus*, of which Mr. Hitchings gave him some bulbs. Mr. Parkman answered that they survived the first season and then disappeared.

Mr. Wilder inquired whether it was not better to grow some species of orchids in pans than in crowded pots.

Charles M. Hovey said that Mr. Wilder probably alluded to *Cypripedium insigne* and *C. venustum*. Pans are better for these, because in deep pots they are apt to get too much water. The pans should be well drained. He saw this plan first in the garden of Mr. Lenoir, in New Jersey; he had pans fifteen or twenty inches in diameter, containing plants with one or two hundred flowers each. Orchids must have special treatment, and hence they have not come into general cultivation. In England he found the orchid houses so reeking with moisture and heat that ladies could not possibly enter them. Cool orchids from Mexico will grow in greenhouses which are accessible to ladies.

Mr. Cartwright said that the treatment of cool orchids is very simple: give plenty of water and heat in the growing season. Keep *Dendrobium nobile* in a cool place, and you will always retain the foliage. Through the dormant season he keeps them on a bed of slightly moist sand.

Mr. Hovey said that in England they had had a great deal of discussion of cool orchids, so that they were getting tired of it. Orchids had been recommended for cool culture which were unfitted, and consequently many had been destroyed. We have a great advantage over English cultivators in our bright sun, which enables us to grow many species in the greenhouse which cannot be so cultivated there. Our bright sun ripens up and matures the pseudo-bulbs, which all the fire heat is unable to accomplish.

Mr. Cartwright agreed with Mr. Hovey as to the advantage of sunlight for orchids, and said that he would always expose them to the sun.

Mr. Rand, in reply to an inquiry by the president, whether the

flower stalks of *Dendrobium nobile* could be cut without injury to the plant, said that they could not be. The best way is to cut the single flowers and wire them, and even then they will last longer than most flowers.

Mr. Hovey said the question of cutting the flower stalks was simply a matter of dollars and cents. If one is willing to pay two dollars to the florist to cut a flower stalk so as to have a natural spike which will keep two or three weeks, in preference to a bunch of wired flowers, the florist can judge whether it will pay for the injury to his plant. Among the orchids which can be grown at all times is the *Phaius grandifolius*, which is as easily cultivated as the Calla. The *Cypripediums—venustum*, *insigne*, and *barbatum*—are also easily grown in the greenhouse. He did not feel, as many do, that the yellow color of the *Oncidiums* was an objection. He would have a portion of yellow in every bouquet.

The Committee on Publication announced that next Saturday Charles M. Hovey would read a paper on "Gardening as a Science."

MEETING FOR DISCUSSION.

SATURDAY, March 20, 1875.

Charles M. Hovey read a paper on the History and Science of Gardening, of which, as it was quite long, only an abstract is presented.

GARDENING CONSIDERED AS A SCIENCE;

OR, THE HISTORY AND STUDY OF THE VEGETABLE KINGDOM, VIEWED IN REGARD TO THE USEFULNESS, AS WELL AS THE PLEASURE OF ITS PURSUIT.

BY CHARLES M. HOVEY.

The subject is divided into three primary sections, as follows: First, The History of Gardening; Second, The Study of the Vegetable Kingdom as a Science; and Third, The foregoing viewed in regard to the pleasure derived from their pursuit.

The first part, the History of Gardening, is sub-divided into three sections, viz.: the *Ages of Antiquity*, commencing with the earliest accounts and terminating with the foundation of the Roman Empire; the *Ancient Ages*, from the rise of the Roman Empire to its fall; and *Modern Times*, from the close of the second period to the present day.

In the first of these periods we have the Garden of Eden, and the other gardens mentioned in Scripture, especially those of Solomon, many of the plants in the last being specified. The gardens of the Assyrians and Persians were famous for their romantic and picturesque situations. Persia is the native place of most of our acclimated fruits, and its gardens were filled with fragrant flowers and cooling fruits, which have also been known in Egypt from time immemorial.

The Greeks copied their gardening, as well as their architecture, from the Persians; yet the former art did not make such rapid progress in Greece as the latter. Hence the remark of Lord Bacon in his essay on gardens, "That when ages grow up to civility and elegancy, men come to build stately sooner than to garden finely, as if gardening were the greater perfection."

In the second period, the Romans seemed to have gathered the art of gardening from the Greeks, as the latter did from the Persians; or, more probably, it travelled west with the current of civilization. The first garden mentioned in Roman history is that of Tarquinius Superbus. The next, that of Lucullus, was so grand and splendid that it rivalled those of the eastern monarchs. We have the most particular descriptions of the gardens of Pliny, which have been considered as giving the whole taste and style to European gardens up to the seventeenth century. This accomplished nobleman and philosopher possessed two villas, that of Laurentinum, a winter retreat near Rome, and the Tuscan villa in the Appenines. The gardens of these villas are said to have borne a striking resemblance to the modern Dutch and French styles; they had even their little flower gardens, bordered round with box and trees cut in curious shapes, and great attention seems to have been given to their formation and care. It is astonishing that, in an age when architecture displayed all its grandeur, a Roman consul, a polished friend of emperors, and a man of elegant literature, delighted in what would now scarcely be admired in a cottage garden.

This age was the first which produced any very interesting writers on agriculture, but their works are nearly all lost; among those which have come down to us are the writings of Cato, Varro, Pliny, Virgil, and Columella.

The third or modern period extends from the fall of the Roman Empire to the present time. During the earlier part of this period Europe was sunk in barbarism, and the art of gardening was preserved through the dark ages almost wholly by the attention paid to it by the monks. It was not until the fifteenth century that gardening was revived with other arts. The most celebrated gardens at this time were those of the great Lorenzo de Medici. The gardens of Turin, Genoa, Florence, Naples, and Milan were among the most remarkable, that of the royal residence at Milan being the finest. The park contained three thousand acres, besides culinary, botanic, and fruit gardens, orangeries, hothouses, etc.

During the two succeeding centuries the science of gardening spread throughout almost all Europe, being probably as well understood in France as in any country of the continent. But the work of bringing it to its greatest perfection seems to have been left to the British isles. It was first introduced by the Romans in the fourth century, but was lost again in the fifth, when they left Britain. Little is known of its development until the reign of Henry the Eighth in the sixteenth century, when it received that stimulus which has since carried it so vigorously on. In the eighteenth century the modern style of landscape gardening was introduced, and Pope and Addison were among its first friends; they not only wrote upon, but practised it, both having small gardens near London.

Gardening as a Science is founded on a classification of the facts which have been observed, and the establishment of the principles which govern them. The objects of gardening are two: the cultivation of vegetables and fruits for the sustenance of man, and the formation of external scenery to please the eye and afford public and private recreation. This second general division may be sub-divided into *Systematic Botany*, or plants studied in relation to their difference, nomenclature, and classification; *Vegetable Anatomy and Physiology*, or the study of plants as living beings, in which is considered the form of their organs, modes of nourishment, and multiplication; *Botanical Geography*, in which plants are considered as to climate, soil, habitation, etc.; and *Applied*

Botany, which has respect to their uses as medicinal, economical, and edible. In accordance with this view their study is arranged as follows: the history, glossology, phytography, taxonomy, organology, anatomy, chemistry, physiology, pathology, geography, and culture.

The *History* of the study of plants is coeval with the human race. The first who wrote much upon the subject was Pythagoras; to him succeeded Anaxagoras, Hippocrates, Theophrastus, Virgil, Dioscorides, and Pliny. The first attempt to arrange plants in classes and orders was made by Gesner, a native of Switzerland, in the sixteenth century. Various other systems were proposed, but it was not until that of Linnæus appeared that a satisfactory classification was devised. This, however, was an artificial system, and it was thought by many, including Linnæus himself, who published the idea in the latter part of his life, that if a natural method could be devised it would supersede the artificial. The foundation of such a system was laid by Bernard Jussieu, a Frenchman, and it was completed by his nephew, A. L. Jussieu.

Glossology may be defined as the grammar of plants, referring to the names by which they are distinguished and the terms necessary to designate their various parts with accuracy.

Phytography relates to the nomenclature of plants. The vegetable kingdom is divided into classes, orders, genera, and species; a class being distinguished by some peculiar character common in plants; an order by some character limited to a few plants belonging to a class; a more limited character constitutes a genus, and a species is a division of a genus, which by particular marks, as well as by the laws of nature, cannot be joined to any other than the one from which it originated; a variety is a deviation from a species, and a sub-variety a slight deviation from a variety. Thus the apple, according to the Linnæan system, belongs to the class *Icosandria*, order *Pentagynia*, genus *Pyrus*, and species *malus*, which is the crab apple. The cultivated apple is a variety, and a sub-variety designates the particular kind, as the Russet, Pearmain, etc. All names must be derived from the Latin or Greek, or they would soon be confounded, as every nation has a vernacular name.

Taxonomy is the classification of plants, without which the mind of man would be unequal to the task of acquiring an idea of the vegetable kingdom, but with it almost any one may attain a correct knowledge of plants.

Organology refers to the external structure of plants, vegetables being reduced to two classes, as complicated or simple, or perfect and imperfect. The organs of perfect plants are divided into conservative, as the root, trunk, branch, and leaf; and the reproductive, as the flower stalk, flower, receptacle, and fruit, all of which, though temporary, are indispensably necessary to their propagation.

Vegetable Anatomy, or the internal structure of plants, is the most interesting part of the study of the vegetable kingdom. The internal organs are reducible into component ones, called decomposite, composite, and elementary. The first are those which by the annual process of the sap are changed, in plants of a soft or juicy nature, into composite organs, or solid or woody fibre. These composite organs are of different substances, as the pith, the wood or vegetable fibre, and the outer cuticle or integument. The elementary or vascular organs are situated in the wood or between the wood and integument, and are the vessels which conduct the sap or proper juice to every part of the plant.

Vegetable Chemistry relates to the different substances produced by plants. All plants, whether trees, shrubs, or weeds are more than merely organized beings, having the power of absorbing nourishment from the earth, and by the operation of their organs elaborating it into substances useful in the arts, or necessary for the sustenance of the animal world, such as gums, resins, wax, balsams, starch, sugar, oils, cork, camphor, charcoal, ashes, alkalies, salts, extracts, tannin, caoutchouc, acids, etc.

Vegetable Physiology involves the germination, nutriment, digestion, growth, development of parts, propagation of the species, causes limiting the dispersion of their seeds, the evidence of the vitality of plants, etc. The last named point was observed by Linnæus, and published in his works. As with animals, so with plants; when the vital principle is extinct the organs cease to act and decay commences. Among the proofs of the vitality of plants are their sensibility to the stimulating influence of light and heat, and their instinct. Even in the coldest winter, when all vegetation seems totally at a stand, and the plant is stripped of every vestige of foliage, the vital principle is still at work, but as the warmth of spring returns the more rapid circulation of their juices renders their effect visible. The tendency of plants to incline their stems and turn the upper

surface of their leaves to the light, the manner in which the roots will seek the best nourishment, and the invariable direction assumed by twining stems, have been attributed to instinct.

Vegetable Pathology relates to the diseases and casualties to which vegetables are subject. Among other accidental injuries are fractures, incisions, pruning, grafting, and felling of plants, and destroying their leaves and bark. The leaves are destroyed by various insects, and frequently by the hand of the cultivator, though nothing can be more injurious. Diseases are corrupt affections of the vegetable body, arising from a vitiated state of of its juices, such as blight, canker, mildew, honey-dew, dropsy, gangrene, etiolation, suffocation, contortion, and consumption.

In conclusion, a few words on our third general division, the pleasure and usefulness of the study and cultivation of plants and vegetables, may be appropriate. The study of plants furnishes us with a knowledge of the pleasing and interesting science which has just been introduced, while their cultivation affords natural and healthy employment, both of the physical and intellectual powers. There is no truth in the remark that the study of botany is beneficial only to a few, or that to cultivate flowers merely to gratify the eye is useless. To the botanist no road is dreary, no solitude barren, nor any journey wearisome, because he finds so much to admire, so much to attract attention. He sees, even upon the rock, mosses and lichens, which by their growth and decay gradually prepare for the lofty palm and majestic oak. The traveller may, by a knowledge of botany, be enabled to distinguish the poisonous from the edible fruit which is necessary to satisfy his hunger, or even to save him from starvation. To the man of leisure or wealth the benefit derived from this pursuit is as great as that of the study of music, painting, literature, or any other of the fine arts. The mechanic or laboring man needs amusement as well as the man of leisure, and what recreation can there be more innocent and pleasant, after the toils of day, than that of the garden, where he can enjoy the cool and freshened air, and watch over his little spot of useful vegetables, and delicious fruits and beautiful flowers? where

. . . . . "not a tree,
A plant, a leaf, a blossom, but contains
A folio volume; we may read and read
And read again, and still find something new,
Something to please and something to instruct."

The President remarked that Mr. Hovey's lecture had opened a great variety of subjects for discussion, and proposed that we should take up the matter of judicious and injudicious pruning.

W. C. Strong, Chairman of the Committee on Discussion, suggested that we should ponder the subjects presented by Mr. Hovey at our leisure, and listen to some remarks by C. M. Atkinson on roses.

Mr. Atkinson said that his remarks would be on the best way of arranging roses for exhibition, a subject in regard to which much discussion has lately been going on in England. When Mr. Sargent offered his special prizes for roses three years ago, he required that they should be arranged in boxes on a carpet of moss, instead of in the bottles previously used. Mr. Atkinson regarded this method as a great improvement, not only as showing the roses to better advantage, but because they could be brought already arranged in the exhibition boxes, instead of being laid into large boxes as is usually done. This has been found to be the case in England, and it is even stronger in our dryer atmosphere. He hoped to see this method generally introduced.

Mr. Atkinson objected to offering a prize for the best display of roses. William Paul, the great English rose grower, showed a bank of two thousand roses, and the report described it as only a wash-basket of flowers. Such displays afford no means of education; indeed, a rose show, except to the amateur, means little. He suggested that the boxes of roses should be arranged on each side of a long table, with foliage plants in the centre as a background. In an exhibition in France, which he visited in 1852 or 53, the plants were not arranged until after they were judged, and then they were arranged so as to produce the best effect as a whole. No prizes are offered on our schedule for less than six roses. Why not offer prizes for the best three, so as to give an opportunity to cultivators on a small scale to gain a prize?

Charles M. Hovey thought it was a grand idea to judge of plants before arranging them, and he asked why we should not apply the same rule to roses. As to the arrangement of roses, we should not like to see roses in boxes in our gardens, and why should we in our exhibitions? Mr. Hovey pointed to a tall vase on the table filled with graceful sprays of the Cherokee rose, and asked whether it would be better to exhibit them so, or to place them in boxes. Dr. Lindley, some few years before his death, visited an

exhibition in Belgium where the flowers were arranged in bottles in stands like ours, and in the "Gardener's Chronicle" he expressed the opinion that this method was greatly superior to that of arranging in boxes. No artificial arrangement in green boxes or yellow boxes could be as beautiful as the bouquets or single flowers.

President Parkman said that one great advantage of boxes, especially to those who live at a distance from the place of exhibition, is that the flowers can be arranged quietly at home, and then put on the train and brought to the hall in good order, while if shown in bottles they must be arranged in the confusion of the hall.

Mr. Strong thought the truth lay between the two extremes. The object of the florist is to pass a severe judgment on the flowers. He would leave it to the option of exhibitors whether to show in boxes or bottles.

William Gray, Jr., thought that all the roses should be required to be shown in boxes, and that the society should furnish the boxes. If both methods were allowed those who showed in bottles would do so at great disadvantage, for the flowers could not possibly be placed in bottles as fresh as if brought in boxes. People do not come to see a general display, and shows of two thousand varieties would be useless, as well as the bank of ten thousand flowers shown in a French exhibition. He thought it would be well to arrange the roses and plants, as suggested by Mr. Atkinson, after judging.

H. Weld Fuller approved of the exhibition of roses in boxes when offered for prizes; but thought there should be also a liberal show of flowers around the hall to make it attractive, for we have in view a double object,— we wish not only to interest and educate the people, but to draw them here to be educated, and our halls would look bare with only the prize flowers. Besides keeping the roses fresher, the moss produces the best effect, for a green ground is not only agreeable to the eye, but exhibits white and red objects to the best advantage. Red and green being complementary colors, each heightens the effect of the other.

Mr. Hovey thought Mr. Gray was quite correct in saying that roses in boxes would take the prize over those in bottles, for this arrangement originated in "doctoring" flowers. Carnations, for instance, are often kept in place by a piece of paper underneath to support the petals, or a missing petal is replaced and neatly fas-

tened in. So also defective roses might be made to deceive when shown in boxes of moss, — by tucking a little moss underneath, many large petalled roses might be kept in place. Coquette de Blanche and Marechal Niel have slender stems, so that the flowers hang over and do not show to good advantage, but when stuck in moss they stand upright.

Mr. Gray replied that Mr. Hovey could not have examined the roses shown here in boxes. They were in tin tubes, with the flowers six inches above the moss, and the petals not at all supported by it.

John G. Barker, Chairman of the Flower Committee, said that his individual opinion was in favor of boxes, and that the reason why the committee had returned to bottles for the society's prizes after having used boxes, was that exhibitors objected to the expense of furnishing boxes.

Mr. Hovey alluded to the fine specimens of the Cherokee rose on the table, from E. S. Rand, Jr., and said that to produce such flowers it must be grown very strong. He had grown it, but was unable to give it the space required. He doubted the commonly received opinion that it is a native of China, and thought it indigenous to the Southern States.

President Parkman here read from Dr. Gray's "Field, Forest, and Garden Botany," p. 126, the description of the Cherokee rose (*Rosa Sinica* or *lævigata*) which is classed with *R. bracteata*, as naturalized in the Southern States from China; and from Elliot's "Botany of South Carolina and Georgia," vol. i, p. 566, where *R. lævigata* is said, in 1821, to have "been cultivated in the gardens in Georgia for upwards of forty years under the name of the 'Cherokee Rose,' but its origin is still obscure."

Leander Wetherell asked what evidence there is that it is not native, and remarked that a grass, *Poa pratensis*, formerly supposed to be of European origin, had lately been found growing in the West, where it was deemed that it could not possibly have been introduced.

Mr. Hovey did not believe that *Rosa Sinica*, which, according to Loudon and Paxton, was not introduced into England until 1759, could have been common in Georgia in 1780. Dr. Lindley (Rosarum Monographia, p. 126) has pointed out the difference between this species and *R. lævigata*, which latter he describes as a native of Georgia.

MEETING FOR DISCUSSION.

SATURDAY, March 27, 1875.

In the absence of the President the chair was occupied by Marshall P. Wilder, and the discussion was introduced by the following paper: —

SUBTROPICAL GARDENING.

BY WILLIAM GRAY, JR.

Subtropical gardening, so called, means the combination of plants, remarkable for habit and foliage, with the brilliant flowers, which formerly were used alone under the name of "carpet bedding."

Some years ago when this last system had reached its climax of absurdity, with its meaningless masses of glaring, unrelieved color, and its ribbon borders wandering aimlessly all over the land; taxing the resources of the largest places to raise coleus and pelargoniums by tens of thousands, a new departure was taken in Paris by the use, in the smaller parks and squares, of plants of striking foliage to relieve and diversify the masses of color.

To William Robinson, more than to any other person, is due the credit of introducing this great improvement into England. As correspondent of the "London Times" he went to Paris in 1867, and by his letters to that journal gave the impetus to the change which has revolutionized English summer gardening. He has since published many books, the main feature in all being an earnest advocacy of a more natural style, and has established "The Garden," that admirable magazine whose motto, "The Art itself is Nature," is the keynote to all his writings. And I am told that now, as is usual in gardening matters, the English excel the French in the arrangement and effect of their groups and beds.

To come nearer home: we have a climate better than that of Paris or London for the growth of tropical foliage, and are free from the constant rains which in England mar the beauty of their flowering plants.

It is not necessary to say much about the detail of cultivation; the beds must be deep and rich: mine are four feet deep, filled

with an equal mixture of loam and well rotted manure, for flowering, as well as for foliage plants. By digging over every autumn, beds so made will last many years without showing signs of exhaustion; the value of such preparation is that watering is rarely needed, even in our longest droughts. I find also that a mulch of two inches of spent hops, spread over the ground at the time of planting, is of great benefit; it keeps the ground moist, prevents hardening from rain and the cracking afterwards in the sun, keeps down weeds, and prevents the spattering of earth on the foliage which so disfigures it, especially that of variegated pelargoniums. If one wishes fine beds of bloom it is necessary to have some way of protecting them from our heavy thunder showers, which, in a few minutes, will ruin pelargoniums for a fortnight. I use light wooden frames, rather larger than the beds, covered on the top only with cotton cloth.

Among suitable plants the Canna takes the first place for beauty, for diversity of foliage and habit, for rapid growth, and, in some of the newer varieties, for the profusion of flowers almost equal to those of the gladiolus. Add to these qualities its cheapness, and the ease with which its roots can be kept through the winter, and I know of no plant that can compare with it for general usefulness.

The best kinds tried by me are,—

Anneii, tall growing, sea-green leaves, salmon flowers.

Premices de Nice, medium growing, green lance-shaped leaves, yellow flowers.

Marechal Vaillant, large growing, bronze veined leaves, orange flowers.

Nigricans, large growing, metallic leaves, flowers of no account.

Jean Vandael, large growing, green leaves, large red flowers.

Purpurea spectabilis, large growing, greenish purple leaves, scarlet flowers.

For foliage only, *Auguste Ferriere*, of the largest size, green leaved, with narrow stripes and edging of dark red, and *Discolor*, of medium size, with beautifully veined leaves of bronze and green; these two varieties have never flowered with me, but are described in M. Chate's book on "The Canna" as having orange-red flowers. For further information I would refer to the above mentioned book, where a great number of species and varieties are described.

It adds much to the effectiveness of the beds to plant their centres with tubers, and to edge them with seedlings of *Canna limbata*. Seeds started early in April will make plants large enough for this purpose by the first of June; they should be set out twelve inches apart, and eighteen inches from the older plants; they grow from two to two and a half feet in height, and having leaves to the very ground, give a massive effect and luxuriance to the beds not attained by plants from tubers alone. For color, surround these seedlings with dwarf pelargoniums, Golden Feather, or *Achyranthes Lindeni*.

Caladium esculentum, five or six in a round bed, planted not too closely; single plants of the green *Arundo donax*, surrounded by those of the variegated varieties; specimens of *Ricinus sanguineus* for red, and *Brasiliensis* for green, which will grow eight feet in height in a single season from seed, in a rich soil and with plenty of water; the dark green *Gymnothrix latifolia*, the perfection of symmetry; and *Erianthus Ravennæ*, the perfection of grace; the *Cyperus Papyrus;* and, for those who have room for winter keeping, the *Musa Ensete*, are some of the plants suitable for the purpose.

The surfaces of such beds should be carpeted with dense, low-growing plants of variegated foliage, as *Abutilon vexillarium pictum*, or the Japan honeysuckle (*Lonicera aureo-reticulata*), or flowering plants, as *Lobelia pumila grandiflora*, *Nierembergia gracilis*, or *Clematis Jackmanni*.

The Pampas Grass is another superb object; but, unlike those above mentioned (excepting *Erianthus Ravennæ*), may be left in the ground in winter; and, if covered with a large barrel with strawy manure piled up to and over the top, will generally go through unharmed, and increase in size and beauty year by year. For a perfectly hardy subject the Ailanthus, grown to the height of eight or ten feet and pruned closely back each year to the top of the stem, will send out long, drooping, pinnate leaves, which rival palms in elegance and effect. *Aralia canescens* and *Dimorphantus Mandschuricus*, entirely hardy, should have a place where room can be given them for the spread of their great leaves. If you have a rocky bank where grass will not grow, plant *Yucca filamentosa*, free flowering and the hardiest of its race.

Succulents may be used in subtropical gardening, but should be kept in beds by themselves and only planted in the more artificial parts of the grounds. A great variety of these may be grown together, — Agaves, Echeverias, and Sempervivums. Put the

largest plants in the centre, leaving room enough between to see them on all sides; finish the bed with one or more rows of *Echeveria secunda glauca*, and carpet the whole with *Sedum Corsicum*, or *pruinosum*. All kinds of geometrical designs may be worked out with these plants, remembering that much of the final effect depends on the most careful and exact planting.

Plants with colored foliage are among the most effective for this style of gardening: neither sun nor rain dim their beauty, and they do not need the constant care and attention that flowering plants must have at all seasons. I would suggest massing them in beds of simple form, circles and ovals being the best, and edging them with plants of a different color; for example: *Coleus Verschaffelti*, bordered with Golden Feather; *Achyranthes Lindeni*, bordered with the striped grass *Phalaris arundinacea picta;* or *Centaurea gymnocarpa* with a border of dwarf scarlet or pink flowering pelargoniums.

The golden Crystal Palace Gem, or Albion Cliffs (the best white-edged bedding pelargonium), edged with a blue lobelia, are types of the many arrangements that may be made from these materials.

Two of the newer bronze zonals, Harold and The Moor, may be planted in small beds by themselves,their golden centres and edges, and their brilliant chestnut zones, showing to the best advantage next the grass, with no dividing line of contrasting form or color.

Lastly, although hard to grow satisfactorily in our climate, the golden tricolors, Mrs. Pollock and Macbeth, edged with the dwarf growing and very dark coleus Emperor Napoleon, which throws the beautiful colors of the pelargoniums into high relief.

For flowering plants none are equal to the pelargoniums. These should be planted in beds of a single kind, edged with one of a different color, or with a variegated leaf, or with a plant of a different species. The best that I have tried are,—

Gen. Grant, Warrior,	Tall growing scarlets for large beds.
Coleshill, Sir Chas. Napier, Sir John Moore,	Medium in size.
Orbiculatum, Omega,	For dwarfs.

Of dark scarlets, — Douglas Pearson and Wellington.

Of pinks, — Master Christine and Pink May Queen.

The whites and salmons are not satisfactory for bedding; the former are not free flowering enough, and a better and more permanent effect can be obtained from the white-edged Albion Cliffs, or from the variegated alyssum, than from any white flowering plant with which I am acquainted. The alyssum, when well grown and full flowering, gives one of the softest and most harmonious effects to be obtained from the combination of the foliage and flower.

Centaurea candida is another beautiful edging for beds of pelargoniums, but it must not be planted too close to them, for, if shaded, it is almost sure to damp off; in fact, in a wet season it is a difficult plant to keep a line of in good order.

These are some of the materials to be used. Many things have been omitted that cannot easily be obtained, or easily grown, or kept through the winter without great expense; but these, by themselves, if well arranged, will make a garden a source of never failing pleasure to its owner and all comers; and I take it that the highest art is to get the best results from simplest means.

Palms and tree-ferns, yuccas, agaves, and musas, all so beautiful, require too much care and are too costly to be generally used.

As to arrangement it is impossible to give any but general directions, so much must depend on the size and shape, the locality, exposure, and surroundings of the garden. The foundation of all must be good turf well kept; without this no planting can be satisfactory, and perhaps the best general rule that can be given is to leave the centre open for breadth and dignity of effect and to confine the planting to the sides, following a walk making the circuit of the place.

The Chairman remarked that in his judgment Mr. Gray's paper contained more information than any other that has been read here or published on the subject.

W. C. Strong said that the highest art is in producing the best effect by the simplest means, and this is what Mr. Gray has taught us. The paper read recalled to Mr. Strong a beautiful picture which he saw abroad, — a lawn planted with beds of flowers, where one of the most prominent features was the golden pyrethrum, which seemed to light up the whole scene on a gray,

cloudy day. Plants which light up the landscape, like this and the gold and silver tricolors, are among the most desirable.

Edward S. Rand, Jr., said that though his subtropical gardening was not very extensive, he was indebted to Mr. Gray for hints which had enabled him to produce some of his best effects. Besides the plants already mentioned, the hardy shrubs of golden color, such as the golden elder and golden spiræa were very effective, and they have the advantage over white leaved plants that the latter are apt to burn, though this objection does not apply to the variegated alyssum and the Albion Cliffs pelargonium. He had made considerable use of the golden crown imperial, and of the variegated *Bulbocodium vernum*, which contrast well with the crocus, and whose foliage—unlike that of the crocus and most other spring flowering bulbs, which after blooming is quite objectionable, but cannot be removed without destroying the next season's flowers — is very attractive and showy.

H. Weld Fuller thought the *Alternanthera amœna* or *A. versicolor*, though not mentioned by Mr. Gray, very desirable for edgings or ground. It was used with excellent effect as a carpet under the large plants in the beautiful bed of succulents at Mr. Hunnewell's. It is easy of culture, uniform, and reliable. At Woodlawn Cemetery a large oval bed, which gave much satisfaction, had a dense centre of cannas, surrounded by tritomas, next *Coleus Verschaffeltii*, then achyranthes, and belts of pelargoniums, the white-edged outward, and alyssum next to a border of alternanthera. Golden pyrethrum has a fine effect if not repeated too often. The ageratum is often useful, and the blue lobelia cannot be dispensed with. Such beds as those mentioned by Mr. Gray require some border. In a mass of bloom sometimes a white *Centaurea* (*gymnocarpa*), high in the centre, overspreading like a fountain, produces an excellent effect. A novel and beautiful effect was produced at Mr. Hunnewell's by a large circle of variegated Japan honeysuckle intermingled with an outer planting of *Clematis Jackmanni;* the purple of the clematis flowers showing finely on the golden yellow of the honeysuckle.

The bed of succulents already mentioned, of which the principal features were echeverias, the smaller varieties being arranged in successive rows on an inclined rim, growing smaller to the top, with large plants of *E. metallica* in the centre, produced a striking appearance. The French, who were the first to introduce subtrop-

ical gardening, generally understand the combination of colors in all things.

The principles of arrangement are beginning to be recognized with us. There are various ways in which the results desired may be produced, varying often according to the ground, but we know that red always produces the best effect on a background of green, the two colors being complementary, and that blue and yellow next to green destroy each other by borrowing. Plants must not be mixed heterogenously except in rockwork. There should be harmony or contrast and variety. He did not believe in the glare of too many bright colors often repeated. For general purposes he thought the subdued half-tints were more pleasing, giving sweetness and repose. He loved the blue and white. High colors, like those of the Gen. Grant, Coleshill, and other pelargoniums, may, however, be massed occasionally with great success. In conclusion, Mr. Fuller expressed his high approval of all that had been said by Mr. Gray, in whose grounds he had seen most perfect masses of flowers.

James Cruickshanks remarked that there are two shrubs which come in well for lawn decoration, though expensive,—the variegated hollies and the araucarias. A good *Araucaria imbricata* is as fine an object as you can have on a lawn, where there are conveniencies for taking care of them through the winter.

William T. Brigham said that he believed in masses of color and foliage, and thought we had seen too much of flowers in stiff lines. Nature produces her flowers in masses, like those of the Californian poppy (*Eschscholtzia*), which covers the ground with a carpet of gold, or the *Nemophila*, which looks as if a patch of blue sky had fallen to the ground, or the white forget-me-not. In the tropics he had noticed the effect of the masses of "kukui" (*Aleurites triloba*), which in the darkest days has the effect of sunshine, but in no part of the world had he seen flowers growing naturally in lines. Of course there must be edgings to the beds in a garden, but they should never be filled with lines of flowers, as in the Public Garden in this city. As instances of the effect of masses, Mr. Brigham mentioned the cliffs in India covered with the dark, coriaceous leaves of the *Bombax* or cotton tree; the *Bougainvillea*, used for covering arbors, and whose floral bracts have a very grand effect; and to the cannas by the watercourses, with bananas growing up among them. The leaves of the pelargonium are not

beautiful in form, but are apt to produce an appearance of heaviness, and require slender leaves among them. He had seen very fine effects produced by beauty of form alone, without variety of color.

C. M. Atkinson thought that the plants mentioned by Mr. Fuller belonged rather to carpet gardening than to subtropical. A very handsome garden can be made of the plants mentioned by Mr. Gray with a very moderate expense for winter protection. In every garden the surroundings should be considered, and carpet gardening should be in a place by itself, backed up by larger plants. A plant omitted by Mr. Gray is the Himalaya bamboo, which grows nine or ten feet high, and the slightest breeze has a beautiful effect on it. In autumn it should be lifted and receive the protection of a cool greenhouse, or when that is not available, a shed will be sufficient in winter.

Mr. Strong agreed with Mr. Brigham, and would go a little farther, objecting not only to belts, but to too frequent massing, believing that masses as well as belts are liable to be carried to an extreme, especially where the masses are regular and formal. He alluded to the bed arranged by Mr. Fuller, and said that we lose the effect of cannas when we surround them with tritomas. We should allow plants to produce their true and natural effect, both in our exhibitions and our gardens.

Mr. Fuller said that in arranging our material we must bear in mind the area which is to be planted. We cannot produce the scenery mentioned by Mr. Brigham and Mr. Strong in a limited extent, and must sometimes depend on our plants rather than our landscape for pleasing. It is often necessary to raise beds slightly in the centre in order to show the plants. He thought the *Eschscholtzia*, which is all sunshine, and which he recollected many years ago, could sometimes be used with effect.

Mr. Brigham said that where it was necessary to have lines he would have them broken in some way. He thought that even a mullein stalk or a thistle would have an agreeable effect in relieving the monotony of the lines in the Public Garden. Carpet gardening is giving a surface to the ground; in California there is no natural grass sod as here, and the flowers previously mentioned by him, and even the *Claytonia*, form one.

The Chairman said he believed the society's money had been well expended in encouraging the introduction of the many

beautiful plants now used in our gardening. The modern style of gardening has produced plants which we cannot get along without. It is not probable that *Coleus Verschaffeltii* and the alternantheras will ever be surpassed for usefulness, while for white it is doubtful whether we shall ever see anything better than *Centaurea candida.*

Mr. Cruickshanks agreed with Mr. Brigham in condemning straight lines, and mentioned a nobleman's place in England where the disagreeable effect of a border of straight lines was broken by planting groups of holly, laurestinus, laurels, and other shrubs, of which they have so many more in England than we have here, and, between these, groups of herbaceous plants.

[Since the close of this discussion it has been suggested that the *Humea elegans* should have been included among the plants desirable for lawn decoration. Although a biennial it is well worth the trouble of growing two years. It produces the best effect when planted singly on the lawn. The Editor can testify from personal observation at the estate of the late Mrs. Ward, in Canton, Mass., to its exceedingly graceful effect when thus employed.]

Mr. Atkinson spoke of a specimen, exhibited by him, of the Swiss chard, a variety of *Beta cicla*, a species of beet of which only the tops are eaten. They are cultivated in France under the name of *poirées.* The leaf is boiled like spinage, while the stalks form a substitute for asparagus. They are sown at the same time with mangel-wurtzel, lifted in autumn, and planted in a cold frame. A three light frame will furnish a supply for an ordinary family.

Mr. Atkinson spoke also of the kohl rabi, or turnip rooted cabbage, a vegetable intermediate between the turnip and cabbage. He said the bulbs were so hard and woody that he should not have courage to boil one, but had found that when they were placed in a frame for forcing, or planted out in the open ground in spring, all the dormant eyes in the axils of the leaves, which spring from the top of the bulb, would send up shoots, which, when about the size of one's finger, were excellent boiled and eaten like asparagus.

E. W. Buswell thought Mr. Atkinson need not fear to boil the bulbs of the kohl rabi. He had found them very nice if only taken young, before growing woody.

Mr. Cruickshanks said that he grew the Swiss chard a good many years ago, and it was then known as the improved sugar beet. Only the leaf stems were used, and they were found a very good substitute for asparagus.

E. S. Rand, Jr., called attention to a spike of flowers of *Oncidium flexuosum*, exhibited by James Comley. The flowers are of a brilliant yellow color, and the spikes with their slender stems assume a very graceful position. If these flowers had remained on the plant they would probably have lasted three or four weeks, and even when cut they would endure for a week or ten days. Mr. Rand had a plant of *Oncidium luridum guttatum* which had at one time two hundred and eighty-four flowers, besides buds. He also exhibited an orchid of his own, *Cattleya pumila*, the smallest of all orchids, growing upon a block of wood. The flower is of a beautiful blush purple, with a deep purple lip. It hardly needs any rest, but after the flower is gone the plant will have no water until it begins to grow. It was imported from England a year ago, when it had only three leaves, but has made several since, and is now in a condition to be cut for a "back break." The flower is very large in proportion to the size of the plant.

The Chairman said that as this was the last meeting of the season he wished the President of the society were here to express the gratification which all must feel at the success of the meetings, and at the increased attendance which has sanctioned them. Nothing in the whole history of the society has given more satisfaction than these meetings, as the most decided step of progress ever made, and the same testimony comes from abroad, the published reports of the meetings of last year having been copied from and invariably spoken of with high approval, and he trusted that they would be continued in the future, and that all would come up prepared to make them even more successful than the series now closed.

The Corresponding Secretary corroborated the remarks of the Chair in regard to the interest of these discussions to parties abroad, and said that the reports were looked for with great interest.

The Chairman made the gratifying announcement that Mr. Gray had invited the members of the society to visit his houses and examine his pelargoniums, which were coming into bloom.

The Chairman of the Committee on Publication and Discussion gave notice that the committee would, at the quarterly meeting on the first Saturday in April, ask for the same appropriation as last year, and if granted they would offer a prize of twenty-five dollars for the best Essay on Roses, to be read at the Rose Show on Thursday, July 17.

TRANSACTIONS

OF THE

Massachusetts Horticultural Society,

FOR THE YEAR 1875.

PART II.

BOSTON:
TOLMAN & WHITE, PRINTERS, 383 WASHINGTON STREET.
1876.

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1876.

The Committee on Publication and Discussion take this opportunity to repeat what they have heretofore stated, that the Society is not to be held responsible for the certainty of the statements or the correctness of the opinions expressed in the papers and discussions now or before published, but undertakes only to present these papers and discussions, or the substance of them, correctly. The award of a Prize for an Essay is not to be understood as implying that the Committee approve it in every particular, but only that they believe it calculated, *on the whole*, to promote the science or art of horticulture.

William C. Strong, *Chairman.*

TRANSACTIONS

OF THE

Massachusetts Horticultural Society.

BUSINESS MEETING.

SATURDAY, April 3, 1875.

A duly notified stated meeting of the Society was holden at 11 o'clock, President PARKMAN in the chair.

The President, in behalf of the Committee appointed to revise the By-Laws of the Society, reported a new code of By-Laws, which was read twice, and it was unanimously

Voted, That the code of By-Laws, as presented, be entered upon the Records, and lie over for consideration at the next stated meeting.

Voted, That an appropriation of three hundred dollars be made for the expenses of the Committee on Publication and Discussion.

The following named persons were elected to membership:

HENRY LEE, of Boston.
JOSEPH H. CURTIS, of Boston.

Adjourned to the first Saturday in May.

BUSINESS MEETING.

SATURDAY, May 1, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President PARKMAN in the chair.

The Corresponding Secretary presented a series of documents from the Committee of the Centennial Exhibition at Philadelphia. On motion, President Parkman, Marshall P. Wilder and Benjamin G. Smith were appointed a committee to take the matter into consideration.

George W. Humphrey, of Dedham,
C. G. Pringle, of Charlotte, Vt.,
Edward Shepard, of Lowell,
Dr. Charles W. Swan, of Boston,
B. M. Watson, of Plymouth,

were elected to membership.

Adjourned to the first Saturday in June.

BUSINESS MEETING.

Saturday, June 5, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President Parkman in the chair.

The President read the following letter:

Boston, May, 1875.

To Francis Parkman,
President of the Massachusetts Horticultural Society.

Dear Sir:

I desire to present to the Massachusetts Horticultural Society my Herbarium, containing one hundred and sixteen species and many varieties of North American Filices.

It is now three years since this Society first conferred on me the privileges of membership, and I have ever been anxious to make some return, that would indicate my high appreciation of what any one might justly regard as a great honor.

It is, therefore, partly with a view to accomplish something in this direction, and partly to supply a want seriously felt by others as well as myself while studying our native ferns, that I now consummate a long cherished purpose to prepare a collection of American Ferns that might be worthy of acceptance by the

Society, and prove a useful addition to the rich botanical treasures of our library, and I beg leave to tender to the Society through you, its honored representative, the results of my labor, with the respectful request that I may be permitted to retain the privilege (by no means, however, intended as a condition) of making such alterations and additions from time to time, as may be necessary to make the work more perfect and complete.

Respectfully,

GEO. E. DAVENPORT.

The following vote was then offered:

Voted, That the thanks of the Society be presented to George E. Davenport for the very complete and valuable collection of Ferns presented by him to this Society, and that the Society gratefully recognizes the kind interest shown by Mr. Davenport, and would express its deep appreciation not only of the gift but of the kind feelings of the giver.

E. H. Hitchings seconded the above vote, and said that the collection presented was a most excellent one, and that he rejoiced in its acquisition by the Society. He had thought of making such a collection for the Society if he had not been forestalled by Mr. Davenport.

John Robinson said he had known for a short time Mr. Davenport's intention regarding his collection of ferns, and had from time to time examined them.

Of the one hundred and thirty-one species and twenty-five varieties credited as growing in North America north of Mexico, one hundred and twenty-one species and twenty-four varieties were represented in this collection. Not only were there good specimens of each of these, but the larger portion of the species were represented by numerous specimens, exhibiting nearly every variety of form in which the fern can be found and from many (often widely different) localities.

Of the ten species not represented, at least four are doubted as being true American species, having been, in all probability, erroneously attributed to this country by certain authors, and not verified by specimens in any existing collection, thus leaving, at the most, but six species as now known to be wanting, although doubtless new species will be discovered.

Valuable autograph letters from Prof. Asa Gray, Prof. Daniel

C. Eaton, Dr. A. W. Chapman, and others, still further enrich this herbarium.

This collection is one of the best of North American Ferns, but one, that of Prof. Eaton, of New Haven, being more perfect as far as Mr. Robinson could learn. The collection at Cambridge, which was quite familiar to him, was inferior both in species and in perfection and number of specimens. As there is no one work which contains any considerable number of illustrations of North American ferns, and as all the works on botany, could they be collected here, do not contain more than two-thirds of these species, this is the only way by which a person can easily identify our ferns. The desirability of such a collection is very evident from the interest expressed in the subject by many frequenters of these rooms.

Mr. Robinson added that we can hardly realize the time and care required in collecting and arranging so large a series of specimens, and he thought the Society should feel exceedingly gratified at this result of Mr. Davenport's work, as he tells us that it is to this library and to the persons he has met here that his encouragement in the study of botany is in a great measure due.

Mr. Robinson was also very glad to learn that Mr. Davenport intended to continue his work by adding to this collection, and making it as perfect as possible.

Edward S. Rand, Jr., spoke of the much greater value of even dried specimens of plants, as compared with the best plates, and expressed the hope that this collection might be the beginning of a herbarium to include all our native plants, and which might ultimately extend to all plants.

The vote of thanks was unanimously passed.

[A catalogue of the Ferns in this collection is appended to the report of this meeting, for the information of those interested in the subject.]

The following resolution was offered by Charles O. Whitmore:

Resolved, That this Society, in consequence of the valuable services rendered to it by Dr. Jacob Bigelow, is desirous of obtaining his portrait to be placed with the other memorials of its founders, and that a committee of three be appointed to wait on Dr. Bigelow, and request him to accede to the unanimous wish of the Society.

After remarks by Marshall P. Wilder and Robert Manning, the

resolution was adopted, and the Chair appointed Charles O. Whitmore, Marshall P. Wilder and Benjamin G. Smith, as the Committee.

Marshall P. Wilder, Chairman of the Committee appointed January 2 to present a testimonial to Ex-President William C. Strong, read a letter from Mr. Strong, acknowledging the receipt of the testimonial.

Marshall P. Wilder announced to the Society the decease of Frederick Clapp and Henry W. Dutton, and on motion, Marshall P. Wilder, William C. Strong and Charles M. Hovey, were appointed a Committee to present suitable resolutions.

On motion, the President was authorized to appoint twenty-five delegates to represent this Society at the meeting of the American Pomological Society, at Chicago.

FRANK BECKER, of Belmont,
MRS. S. M. DOWNES, of Andover,
DAVID G. DWIGHT, of Boston,

were elected to membership.

Adjourned to Saturday, June 19.

CATALOGUE OF NORTH AMERICAN FERNS IN THE HERBARIUM PRESENTED TO THE MASSACHUSETTS HORTICULTURAL SOCIETY, BY GEORGE E. DAVENPORT, JUNE 5, 1875.

Acrostichum aureum, *L.*
Polypodium Plumula, *H. B. K.*
" vulgare, *L.*
" intermedium, *H. & A.*
" incanum, *Swz.*
" Scouleri, *H. & G.*
" Californicum, *Klf.*
" Phyllitidis, *L.*
" aureum, *L.*

Gymnogramme triangularis, *Klf.*
" pedata, *Klf.*
Notholæna sinuata, *Klf.*
" ferruginea, *Hook.*
" cretacea, *Mett.*
Notholæna dealbata, *Kunze.*
" Fendleri, *Kunze.*
" Newberryi, *Eaton.*
" Parryi, *Eaton*, n. sp.
" tenera, *Gillies.*

Cheilanthes Californica, *Mett.*
" Wrightii, *Hook.*
" Alabamensis, *Kunze.*
" microphylla, *Swz.*
" Fendleri, *Hook.*
" vestita, *Swz.*
" Lindheimeri, *Hook.*
" gracillima, *Eaton.*
" tomentosa, *Link.*

Cheilanthes Eatoni, *Baker.*
" lanuginosa, *Nutt.*
" Clevelandii, *Eaton*, n. sp.

Cryptogramme acrostichoides, *R. Br.*

Pellæa gracilis, *Hook.*
" Breweri, *Eaton.*
" Bridgesii, *Hook.*
" atropurpurea, *Link.*
" Wrightiana, *Hook.*
" ornithopus, "
b. var. brachypterum, *Eaton.*
Pellæa andromedæfolia, *Fée.*
" flexuosa, *Link.*
" pulchella, *Fée.*
" densa, *Hook.*

Pteris longifolia, *L.*
" cretica, *L.*
" aquilina, *L.*
b. var. caudata, *Hook.*
c. var. lanuginosa, *Hook.*

Adiantum pedatum, *L.*
" Chilense, *Klf.*
" Capillus-Veneris, *L.*

Vittaria lineata, *Swz.*

Blechnum serrulatum, *Michx.*

Lomaria Spicant, *Desv.*

Woodwardia radicans, *var.* Americanum, *Hook.*
Woodwardia Virginica, *Smith.*
" angustifolia, "

Scolopendrium vulgare, *Smith.*

Camptosorus rhizophyllus, *Link.*

Asplenium pinnatifidum, *Nutt.*
" ebenoides, *R. R. Scott.*
" Trichomanes, *L.*
b. var. incisum, *L.*
Asplenium ebeneum, *Aiton.*
b. var. serratum, *Gray.*
Asplenium viride, *Hudson.*
" montanum, *Willd.*
" Bradleyi, *Eaton.*
" Ruta-muraria, *L.*
" septentrionale, *Hoff.*
" myriophyllum, *Presl.*
" angustifolium, *Michx.*
" thelypteroides, "
" Filix-fœmina, *Bernh.*
b. var. angustum (Aspidium angustum, *Willd.*).
c. var. Michauxii, *Mett.*
d. var. cristata, *Gray.*

Phegopteris polypodioides, *Fée.*
" hexagonoptera, "
" Dryopteris, "
" alpestris, *Mett.*

Aspidium Lonchitis, *Swz.*
" munitum, *Klf.*
" acrostichoides, *Swz.*
b. var. incisum, *Gray.*
Aspidium aculeatum, *Swz.*
b. var. Braunii.
Aspidium Thelypteris, *Swz.*
" Noveboracense, *Swz.*
" patens, *Swz.*
" fragrans, *Swz.*
" spinulosum, *Swz.*
b. var. intermedium.
c. var. dumetorum, *Gray.*

Aspidium spinulosum, *Swz.*
d. var. dilatatum, *Gray.*
e. var. Boottii, *Gray.*
Aspidium cristatum, *Swz.*
b. var. Clintonianum, *Eaton.*
c. var. Floridanum (A. Floridanum, *Hook.*).
Aspidium Goldianum, *Hook.*
" argutum, *Klf.*
" Filix-mas, *Swz.*
" marginale, *Swz.*
" juglandifolium, *Kunze.*
" unitum, *R. Br.*

Struthiopteris Germanica, *Willd.*
Onoclea sensibilis, *L.*
b. var. obtusilobata, *Torrey.*

Cystopteris fragilis, *Bernh.*
b. var. dentata, *Hook.*
Cystopteris bulbifera, *Bernh.*
" montana, *Bernh.*

Woodsia Ilvensis, *R. Br.*
" hyperborea, *R. Br.*
" glabella, *R. Br.*
" scopulina, *Eaton.*
" Oregana, *Eaton.*
" obtusa, *Torrey.*

Nephrolepis exaltata, *Schott.*

Dicksonia punctilobula, *Kunze.*

Trichomanes Petersii, *Gray.*
" radicans, *Swz.*

Schizæa pusilla, *Pursh.*

Aneimia Mexicana, *Klotz.*
" adiantifolia, *Swz.*

Lygodium palmatum, *Swz.*

Osmunda regalis, *L.*
" Claytoniana, *L.*
" cinnamomea, *L.*
b. var. frondosa, *Gray.*

Botrychium simplex, *Hitch.*
b. var. compositum, *Milde.*
Botrychium boreale, *Milde.*
" Lunaria, *Swz.*
" matricariæfolium, *R. Br.*
" lanceolatum, *Angström.*
" ternatum, *Swz.*
b. var. lunarioides.
c. var. obliquum.
d. var. dissectum.
Botrychium Virginianum, *Swz.*
b. var. gracile, *Pursh.*

Ophioglossum vulgatum, *L.*
" bulbosum, *Michx.*
" nudicaule, *L. F.*

Desiderata.

Polypodium falcatum, *Kell.*
Notholæna candida, *Hook.*
Cheilanthes aspera, *Hook.*
" myriophylla, *Desv.*
" Cooperæ, *Eaton*, n. sp.
? " argentea, *Hook.*
? Adiantum pilosum, *Fée.*
Asplenium dentatum, *L.*
Phegopteris Dryopteris, *var.* calcareum.
? Aspidium Californicum, *Eaton.*
? " Ludovicianum, *Kunze.*

BUSINESS MEETING.

SATURDAY, June 19, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President PARKMAN in the chair.

William C. Strong offered the following vote:

Voted, That the Constitution of this Society be so amended as to conform to the code of By-Laws now before the Society for acceptance, and be merged therein, and that the code for the government of the Society be hereafter known as the "Constitution and By-Laws of the Massachusetts Horticultural Society."

The proposed amendments, being the new code of By-Laws, were read once, as required in the article providing for amendments to the Constitution, and the vote was unanimously passed.

Professor WILLIAM P. BOLLES, of Boston,

was elected to membership.

Meeting dissolved.

BUSINESS MEETING.

SATURDAY, July 3, 1875.

A quarterly meeting of the Society was holden at 11 o'clock, Vice-President Charles O. Whitmore in the chair.

In the absence of the Recording Secretary, Robert Manning was chosen secretary, *pro tem.*

William C. Strong presented the following preamble and vote, and moved their adoption:

Whereas, at a stated meeting of this Society, held April 3, 1875, the committee appointed to revise the By-Laws of the Society reported a code of By-Laws, which was then read twice:

And, *Whereas*, it was voted unanimously that the code of By-Laws as presented be entered upon the records and lie over for consideration at the next stated meeting:

And, *Whereas*, at a meeting of the Society held June 19, 1875, it was voted unanimously that the Constitution of this Society be

so amended as to conform to the code of By-Laws now before the Society for acceptance, and be merged therein, and that the code for the government of the Society be known as the Constitution and By-Laws of the Massachusetts Horticultural Society:

And, *Whereas*, the proposed amendments, being the new code of By-Laws, were read once as required in the article providing for amendments of the Constitution.

Therefore, *Voted*, That the code, as presented, be adopted as the Constitution and By-Laws of the Massachusetts Horticultural Society.

The Chair having ruled that under the present By-Laws all amendments to the proposed By-Laws must lie over three months, considerable discussion took place on this point.

The vote being taken by tellers on Mr. Strong's motion, was reported as sixty-one in favor and four against, a two-thirds vote being required; and the code of By-Laws proposed on the first Saturday in April, on the records, was accordingly declared adopted as the Constitution and By-Laws of the Massachusetts Horticultural Society.

A large number of verbal amendments to the By-Laws, offered by F. Lyman Winship, were ordered to be entered upon the records and lie over for consideration at the stated meeting in October.

Marshall P. Wilder, Chairman of the Committee, presented the following resolutions on the death of Frederick Clapp:

Resolved, That in the death of Frederick Clapp the Society has lost one of its best cultivators, and most useful and respected members, who for many years has discharged his duties as a member of the Fruit Committee with fidelity, and who, with his family, has originated many new varieties of fruits.

Resolved, That as a testimonial of regard for our lamented associate, this resolution be placed upon the records of the Society, and that a copy of the same be transmitted by the Secretary to the family of the deceased.

The resolutions were unanimously adopted.

Charles M. Hovey, from the Committee, presented the following resolutions on the decease of Henry W. Dutton:

The Society having learned with deep regret of the recent death of Henry W. Dutton, one of its oldest and most honored members:

Therefore, *Resolved*, That in the decease of Mr. Dutton this Society has lost one who not only was an active and successful

cultivator for many years, but one who always, up to the last moment of his life, felt a deep and abiding interest in the welfare and progress of our association.

Resolved, That the Society, though long deprived of his immediate labors, cannot forget the promptness, assiduity, and zeal, with which he, in years gone by, performed the arduous duties which devolved upon him, or the cordiality with which he labored with all associated with him.

Resolved, That in his death the Society has lost a sincere friend of horticultural science and a faithful chronicler of its progress, and the public an honorable, respected, and Christian man.

Resolved, That these resolutions be entered upon the records of the Society, and that its Secretary transmit a copy thereof to the family of the deceased.

The resolutions were seconded by Robert Manning, who alluded to Mr. Dutton's services as Chairman of the Committee of Arrangements in years past, and also on the Building Committee having in charge the erection of the first Horticultural Hall, and in other important positions, and to his continued interest in the Society up to the time of his decease.

Mr. Hovey said that having edited the "Magazine of Horticulture" for thirty-four years, during most of which time it was printed by Mr. Dutton, he learned to love him as a brother. He also spoke of Mr. Dutton's skill as a cultivator, especially of the dahlia.

The resolutions were unanimously adopted.

Marshall P. Wilder, in behalf of the President, reported a list of delegates to represent the Society at the meeting of the American Pomological Society at Chicago, in September next.

Adjourned to Saturday, July 17.

BUSINESS MEETING.

SATURDAY, July 17, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, Vice-President Charles O. Whitmore in the chair.

Charles H. B. Breck, Chairman of the Committee appointed February 6, presented the following report:

The Committee appointed to take into consideration the matter of a public dinner at the close of the Annual Exhibition in September, have attended to that duty and would respectfully submit the following report:

First. That the Society be recommended to have a public dinner in their own or some other suitable hall, to which ladies shall be invited, and that the price of tickets to the same be fixed at two dollars.

Second. That the Society be recommended to appropriate a sum not exceeding one thousand dollars, to defray incidental expenses.

Third. That the President be requested to appoint a Committee of Arrangements, consisting of seven members, to carry the foregoing votes into effect.

The report was accepted and adopted. The chair appointed as the Committee, Charles H. B. Breck, Francis Parkman, William Gray, Jr., John C. Hovey, Hervey Davis, William H. Halliday, and E. F. Washburn. The appropriation, under the By-Laws, was laid upon the table until the first Saturday in October.

The Treasurer announced that he had received from Peter Smith, of Andover, the sum of fifty dollars to be appropriated to Special Prizes. The thanks of the Society were voted to Mr. Smith for his donation, which was placed at the disposal of the Committee for Establishing Prizes.

George B. Brown, of Boston,
Edward Haskell, of New Bedford,

were elected to membership.

Adjourned to the first Saturday in August.

BUSINESS MEETING.

Saturday, August 7, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President Parkman in the chair.

On motion, Charles O. Whitmore was added to the Committee on the Public Dinner.

The President announced to the Society, the discovery of the lost volume of its records, embracing the period from the foundation of the Society to the year 1844.

Adjourned to the first Saturday in September.

BUSINESS MEETING.

SATURDAY, September 4, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President PARKMAN in the chair.

The President read the following letter:

CAMBRIDGE, August 31, 1875.

FRANCIS PARKMAN, ESQ.,
President Massachusetts Horticultural Society.

Dear Sir:

The Cambridge Horticultural Society having decided to dispose of their Library, and wishing to place as many of its volumes as possible where they will be of the most practical use, have by vote directed me to present to the Massachusetts Horticultural Society all books in their possession which are not in your Library. After a careful examination, I find sixty-three volumes of the above class, which will be delivered at once.

Yours Respectfully,

JOHN C. HOVEY,
Chairman Library Committee,
Cambridge Horticultural Society.

Voted, That the thanks of this Society be presented to the Cambridge Horticultural Society for its liberal donation of books, and that the Secretary be instructed to transmit to that Society a copy of this vote.

In behalf of the Committee on Nominations, Charles H. B. Breck reported the nomination of candidates for the annual election on the first Saturday in October. The report was accepted and laid upon the table.

A discussion arising as to the award of premiums and the constitution of committees, the matter was laid upon the table till the stated meeting in October.

George Russell, of Somerville,
Cephas H. Brackett, of Brighton,
Samuel J. Stone, of Charlestown,

were elected to membership.

Meeting dissolved.

BUSINESS MEETING.

Saturday, October 7, 1875.

A stated meeting of the Society, being the annual meeting, was holden at 11 o'clock, Vice-President Charles O. Whitmore in the chair.

The Secretary read the call for the meeting and certified to its publication in accordance with the By-Laws.

Voted, That the Society proceed to the choice of officers, and that the polls remain open one hour. The polls were opened at ten minutes past eleven. John C. Hovey, E. W. Buswell, and Benjamin G. Smith, were appointed a Committee to receive, sort, and count the votes.

Voted, That the check list be used.

The amendments to the By-Laws proposed at the stated meeting in July, were, on motion, taken from the table for action.

Voted, That the amendments as proposed at the July meeting, and then entered upon the records, be severally adopted.

The amendment offered by Hervey Davis, to Section XXXIII of the By-Laws, was withdrawn.

Voted, That it is the sense of the Society that the last sentence of Section XXXIII, be only construed to apply to the award of prizes and not to the general award of gratuities.

Voted, That an appropriation of six hundred dollars be made to the Library Committee for the purchase of the "Flora Danica."

Marshall P. Wilder moved to amend the By-Laws by abolishing the office of Recording Secretary, as provided for in Section I,

after the first of January, 1876, and that all the duties prescribed for that officer in Section XV, be performed by the Secretary.

The amendment was read twice, and on motion, was entered upon the records.

Voted, That a committee of five be appointed by the Chair to consider what number of offices in the Society it is expedient for one individual to hold.

The Chair appointed William Gray, Jr., John C. Hovey, Henry F. French, Hervey Davis and C. M. Atkinson.

Voted, That the subject of procuring boxes for the exhibition of roses be referred to the Committee for Establishing Prizes, with full powers.

The polls were closed at ten minutes past twelve, and the Committee to receive, sort and count the votes, reported the names of officers elected for 1876.

James Bard, of Framingham,
John P. Loftus, of Boston,
James Davis, of Boston,

were elected to membership.

Adjourned to the first Saturday in November.

BUSINESS MEETING.

Saturday, November 6, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President Parkman in the chair.

Hervey Davis, Chairman of the Committee for Establishing Prizes, reported the amount required for prizes for the year 1876, as follows:

For Plants and Flowers, ...	$3,200 00
Fruits, ...	2,100 00
Vegetables, ...	1,200 00
For Gardens, ...	300 00
Total, ...	$6,800 00

Marshall P. Wilder, from the Committee, presented a report in relation to the co-operation of this Society with the National Centennial Exhibition, in 1870, recommending the passage of the following resolutions:

Resolved, That as the Massachusetts Horticultural Society has always been one of the great leaders in the promotion of the pomology of this continent, it is our duty as well as our privilege, to co-operate in the International Exhibition at Philadelphia, in 1876.

Resolved, That a committee of five be appointed with full powers to solicit contributions, forward the same, and have general superintendence of all matters pertaining thereto.

Resolved, That we recommend the appropriation of a sum not exceeding one thousand dollars, to carry out the objects of these resolutions.

The report was adopted, and it was voted that the committee be appointed by the President, and that he report at the next meeting.

William C. Strong, Chairman of the Committee on Discussion, announced the award of a prize of twenty-five dollars to William H. White, of Westborough, for an Essay on the Cultivation of the Cauliflower and Cabbage, which would be read immediately on the close of the business meeting.

John C. Bancroft, of Canton,

was elected to membership.

Adjourned to the first Saturday in December.

MEETING FOR DISCUSSION.

At this meeting, the prize essay, mentioned by Mr. Strong, was read as follows:

Culture of the Cauliflower and Cabbage Tribe (*Brassica oleracea*).

BY WILLIAM H. WHITE.

There are some five varieties of the *Brassica oleracea* which are cultivated, more or less, as garden or field crops; none of them, however, to the same extent as the common cabbage. Perhaps the second in importance is the cauliflower; certainly if we rate it as a delicate vegetable for the table it is the peer of the choicest cabbage.

While it is a most desirable variety of the cabbage tribe, it is one of the most difficult plants to grow in perfection; at least it frequently proves so with some. The production of perfect specimens is a triumph of the gardener's skill; more fail than succeed. This ought not to be, for there is no secret or royal highway to success; only a compliance with natural laws — and every kind of plant requires thus much in its culture — is needed. Few, however, are willing to go to the full extent of the requirements of the plant, or more frequently cultivators neglect even to inform themselves what those requirements are, and consequently fail of success.

Different varieties of the same family of plants frequently require different treatment with respect to soil, food, and culture. This difference may be only slight, yet is all-important to success. Some few essential requirements are common to all the different varieties of the cabbage tribe. They all want a deep, rich soil, and coolness of season, with considerable moisture.

The cauliflower and cabbage, especially, are most impatient of heat and drought when they once commence to grow and set for heads. A failure to recognize these important requisites, in our efforts at culture, is one error; a second is frequently committed in procuring seed, for few cultivated plants are more sensitive in regard to *good* and *pure* seed than are the cauliflower and cabbage, especially the former.

To produce the eatable portion, a cool atmosphere and considerable moisture are necessary — the spring and fall of the year usually give us these two essentials in better degree than summer. However much moisture may be required, a well drained soil is necessary, for standing with the feet in water is not conducive to health. Change, or new soil and variety of fertilizers, suits this class of plants better, perhaps, than the majority of vegetables, for they uniformly do best when grown only a single season in the same place. Almost any kind of manure is more acceptable to them than pig-pen, or hog manure. Lime, in moderate quantity, is essential in the soil; this, however, is usually found there naturally in sufficient quantity for all practical purposes; still light applications are an improvement.

The culture of the different varieties of the *Brassica oleracea* is so nearly alike, that directions for one will nearly as well apply to all; only a few unimportant details vary where the different

varieties vary in hardiness, and when it is desired to produce young plants for a succession of crops. For an early spring crop of cauliflowers and cabbages, the plants must be brought into condition for planting out as early as the weather will permit; and for all planting the plants require suitable age, which cannot be acquired in only a week or two, though they might be forced into suitable size, but there is a certain quality they acquire in no other way than by age. For late planting and crops, the plants are grown in the open ground. In describing the culture of the cauliflower and the cabbage it will be unnecessary to enter into details; any little modification of these can readily be made to suit varied circumstances of different varieties.

As before remarked, a first and most important essential in growing the plants, is SEED, *pure pedigree seed*, *sound* and *true*. If plants are not produced from the best of seed, no after culture will compensate therefor, and first class cauliflowers or cabbages need not be expected. The cauliflower is the most advanced improvement on nature of the cabbage tribe, and unless the *best* of seed is used it tends strongly to revert; therefore procure the best seed at any cost rather than accept and use a doubtful article at a reduced price. Many fail here, at the start, from thinking to economize a little.

Growing Plants. I will first give directions for growing plants for the later crops in the open ground — the same treatment being alike applicable to the cabbage and the cauliflower. Perhaps I should say that the most thorough course is the best, although requiring some extra labor which may seem to some unnecessary.

Seed Bed. The soil should be generously rich, deep, and mellow, and be freshly dug and worked to a fine tilth for several inches at the surface; a sandy loam works the best for a seed bed. Unless the soil is in good heart a liberal dressing of well fined stable manure or guano should be thoroughly intermixed with three or four inches of the surface. When the ground is thoroughly prepared, which should be in May, sow the seed in drills, six inches apart, thinly, compressing the soil over the seed. As soon as the plants show themselves, sow over them a dusting of soot and plaster to keep off the fly, and thin them, when second leaves are made, to two or three inches in a row. When the plants have made leaves as wide as an old copper cent, transplant into another bed of finely worked rich soil, freshly dug, six inches apart.

This transplanting tends to give them fine bushy roots, makes the plants strong and stocky, and curtails the tap root, and when finally transplanted they are more certain of success, taking root and growing sooner and more strongly. Tolerably good success may be had without this transplanting, by thinning the plants well in the seed bed, cutting the tap root off about two weeks before transplanting, and choosing the strongest and best plants for setting where to be grown.

To produce plants for an early crop to mature in June and July, we sow the seed the first week in September, and winter them over in cold frames. The seed is first sown in a well prepared bed in the open ground, as for the late crop; in the course of four or five weeks the plants are transplanted and set deeply in cold frame beds, two inches apart each way, where they can remain, to be treated as cold frames are commonly managed, till spring; the cauliflower being more tender than the cabbages, more protection to the beds will be necessary. These beds should be located where they will be sheltered from prevailing cold winds, and be banked around, deeply, with stable and yard manure. The cold frames in which cauliflower plants are wintered need considerable attention to keep the plants in the dark the shortest time consistent with safety from cold; to give sunlight when to be had, and also as much fresh air as is safe, taking off the glass and replacing as the weather is soft or cooler, covering when cold and cloudy, and at night. Stir the soil about the plants in the frame whenever practicable, to give the plants strength. All through the winter and early spring the glass should be off as much as safe during the brightest and warmest part of the day to strengthen and harden the plants. About three weeks before corn-planting time begin to leave the glass off nights as well as days.

Plants may also be grown, with less trouble, by sowing the seed in a hot-bed, or other structure for propagating, in January, and, when the plants have made a growth of two or three inches, transplanting into shallow boxes of soil two to three inches apart, and putting them in a warm place where they will not be forced; or they can be transplanted into another hot-bed partly spent, until it is safe to plant them in the open ground. If the plants are properly grown and hardened off, they are so hardy that several degrees of frost does not seem to affect them.

Preparation for Transplanting. If the weather will permit,

manure, plow, and prepare your ground for transplanting into, by the middle of April, or as early as it can be well and thoroughly done; make large applications of manure — ten to twelve cords — and fine and mix it well with the soil; work the soil deeply and thoroughly, making it mellow and fine with plow, cultivator, and harrow. Thorough work here decreases after labor in cultivation. Having accomplished this preliminary work lay off the rows, according to the requirements of the variety to be planted, from thirty to thirty-six inches apart, with the hills eighteen to thirty inches apart in the row. Regard must be had to whether the after culture is to be by horse or hand; if by hand, the rows may be nearer than if the horse and cultivator are to be used. Into each hill drop about a table-spoonful of guano, chop it into the soil well, and cover two to three inches deep with fine soil, and set the plants over this.

Transplanting. The reasons why we transplant may not properly come within the scope of this essay, still they are worthy of the careful study of intelligent cultivators. To perform the work to the best satisfaction, with the least trouble, choose a cloudy time when the soil is moist without being pasty. Carefully remove the plants from the bed into a basket; a trowel or pointed stick is good to loosen the plant, when it is pulled out by the hand and placed in a basket for dropping from. A careful boy can drop these out, one to each hill, while a man follows and as carefully sets the plants, making a hole sufficiently large and deep to hold the roots well; this hole may be made with the fingers, a trowel, or dibble. Place the roots in this hole without doubling, draw the earth over them, and gently firm it so as to press the roots; when set, the plant should stand a trifle lower than in the bed, and the soil around it should be slightly dishing. If only a few plants are to be set they can be watered out successfully by taking up only a few at a time, making a hole so that the roots will go in, holding by the stem with one hand while with the other water is poured to fill the hole; the soil settles around the roots as the water soaks away, when the remainder is filled in and firmed about the plant.

After Culture. As soon as the plants take root they should be carefully hoed, and once every week or ten days thereafter till matured, or so large that it cannot be conveniently done; a fresh, moist soil tends to early maturity. To obtain the best results

water the plants two or three times a week with chestnut colored manure water; muddy water from some stagnant pool is good. There is very little danger of a failure in a crop of cauliflowers or cabbages, provided the directions for good seed and deep, rich soil, thoroughly and frequently worked, with suitable moisture, are carried out to the letter.

The culture for fall and late crops is essentially the same as already described, except that the plants are set in June or, at latest, the first week in July, as the season may be.

In marketing, cauliflowers need careful handling. Divest them of all loose and surplus leaves, and pack them in boxes holding fifty or one hundred each, in which they are sold to the dealer. Immature heads may often be improved to tolerably fair ones by pulling them and hanging, roots upward, in a barn cellar where it is above the freezing point.

Cabbage Culture. Having given extended directions above for cauliflower culture, there remains little to be said on the culture of the cabbage. Cabbages are grown as an early, and also as a late crop. As an early crop market gardeners usually find them a money crop. A heavy sandy loam, strongly impregnated with shell lime, makes a congenial soil for this crop, as lime is a preventive of the disease known as "club-root." The same manures, etc., are applied as stated above for cauliflowers — perhaps a little lighter application answers the same purpose, but cabbages are gross feeders and need rich soil and plenty to feed on. Plants are produced as already described, and the whole culture differs in nothing essential from that directed for the cauliflower.

The most formidable foe we have to the growing, heading plants, is the new cabbage worm lately imported from Europe — the larva of the *Pieris rapæ* — which bores into and through the heads, leaving its excrement wherever it goes. A certain, effectual remedy or preventive of its working is lacking, although copiously watering the heads with saltpetre water is claimed as good, but the application needs to be often repeated; killing the butterflies and destroying their eggs is more sure, according to our experience.

Discussion.

Marshall P. Wilder said that the cauliflower was a favorite vegetable with him, and that this was a good practical essay on

their growth. In raising them very much depends on the season; in a good season he could raise them very easily, while in an unfavorable season it is very difficult to grow them.

The Chairman thought the essayist had made the subject very simple. The secret of success appears to be in constant, careful culture.

Robert Manning remarked on the difficulty of keeping cauliflowers into the winter; and said that when immature heads were hung up in the cellar, as recommended in the essay, any growth of the heads must be from the organized matter in the stems and leaves, unless some small quantity was absorbed from the air. He had planted them in the ground in the cellar and they had grown rapidly; plants taken up before the frost closed the ground in November with small heads, forming fine large heads before Christmas. In this case the plants had an opportunity to derive moisture and nourishment from the ground.

MEETING FOR DISCUSSION.

SATURDAY, November 27, 1875.

This meeting was called for the reading of the following paper, which had received a favorable award from the Committee:

AN ESSAY ON LANDSCAPE GARDENING.

BY JAMES CRUICKSHANKS.

The principles upon which Landscape Gardening is founded are intended to produce unity of design with harmony in execution, and also picturesque beauty, and where these are not combined the grand object in view is not attained.

It is necessary to consider the location of the house, with all its surroundings, the size of the place, also the views to be obtained from it, whether they are distant or circumscribed, of wood or water, tame or romantic, of mountain or meadow, of sea or land. An estate commanding such views requires very different treatment in the arrangement, from one where the house is embedded in a forest with only space enough to get a small lawn, and consequently without distant views. In forming the component parts

of a good landscape, much also depends upon the character of the scenery in view, for if the sea can be seen on the one side, and a mountain on the other, the planting would require to be bolder and more decided than if the only views to be obtained were a meadow with its flocks and herds.

These different circumstances would require to be borne in mind by any one who undertakes such work as the laying out and decorating a suburban residence in the style now practised in Landscape Gardening. Much may be learned by the attentive observer from studying the natural forests, whether on meadow or mountain side, the natural groups being, in many cases, so arranged as to give the landscape a very pleasing effect, so that little improvement could be made by the most skilful artist.

The first thing that requires attention is to have the ground properly drained, and subsoiled, and afterwards graded and enriched; also to have the places marked off for groups of trees which it is intended to plant. You will then be ready to sow the grass seed, and must be sure to procure the best mixture to produce a good lawn.

There are many opinions on this point, but after long experience with various mixtures, the kinds I have found to give the best satisfaction are as follows: eight quarts of red top, two quarts of fine top, three quarts of Rhode Island bent and three quarts of Kentucky blue, adding half a pound of white clover. These grasses when kept short will soon make a fine lawn, which is one of the best components of a good landscape Some soils require more seed than others, but the proportion will be the same whatever the quantity required.

It is difficult to give a design for any supposed place, as almost every one differs somewhat from its next neighbor; but assuming the ground to be nearly level, or slightly undulating, with a public road in front, and rather sloping to the road than otherwise, placing the house about two-thirds of the depth of the property towards the back, will give a good opportunity to have the necessary buildings, such as the stables, carriage-house, ice-house, etc., behind the mansion where they can be shut out from view, if desired, by irregular groups of planting, which could lap over each other and thus secure privacy. This arrangement would afford space for a fine lawn in front, with small, irregular clumps of trees and flowering shrubs near the road, making the lawn look as large as possible and giving views of pleasant objects beyond.

The house being located as above stated, and say, about one-fourth of the width of the lot from either side, with an easy, curved avenue from the road, such an arrangement would give a good opportunity to get a small kitchen garden and orchard at the back of the house, with a greenhouse and grapery running about parallel with the house, and a flower garden in front of them, flowering shrubs and low evergreens forming a boundary between the flower garden and the lawn. Anything that was unsightly would thus be kept out of view, and at the same time everything required could be conveniently located.

The flower garden being a distinct department, the best effect will be produced by cultivating in it principally florist's flowers. The beauty of a lawn is lost in a great measure by introducing clumps of bedding plants through it, however artistically they may be arranged; nothing pleases the eye so well as the pure, green grass, with here and there a handsome ornamental tree judiciously located.

The buildings and drive being thus disposed of, the next thing requiring attention is the planting of the boundaries in such a manner as to afford sufficient shelter on the north and west sides, these being the quarters from which our heaviest gales come, but without giving it a too formal appearance, and at the same time taking advantage of all the most desirable views that can be obtained, and this can only be accomplished by judicious grouping.

The same may be said of the south and east sides, although they may not require to be so densely planted, unless it be to hide some unsightly object; but where a view of the sea, or the bold outline of a mountain can be obtained, the landscape gardener should be sure to take advantage of them. In planting, avoid straight rows, and let the outlines of groups be sinuously diversified, taking care to arrange the trees and shrubs according to their size and color, keeping the tallest at the back and the lightest shades of foliage on the most salient points. Small groups of ornamental trees and shrubs may be judiciously planted through the most distant parts of the lawn, but generally, single trees are all that will be required on a small place, such as the different varieties of magnolias and double thorns, *Virgilia lutea*, tulip trees, deciduous cypress, purple beech, etc., for deciduous trees; and for evergreens, Austrian pines, Cembran pines, and the various species of Retinisporas, with many others that might be named.

This gives a general idea of my system or plan for any such work as the above described, but the design must be varied according to circumstances, different locations, as before remarked, requiring different treatment, and the size of the place being also an important element for consideration.

BUSINESS MEETING.

SATURDAY, December 5, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President PARKMAN in the chair.

The President announced as the Committee on the Centennial Exhibition, Marshall P. Wilder, Charles M. Hovey, Benjamin G. Smith, John C. Hovey and Robert Manning.

On motion, the President was instructed to report the names of two additional members of said Committee.

John G. Barker, in behalf of the Garden Committee, presented the awards of premiums and gratuities for the year 1875.

The Annual Report of the Flower Committee was read by John G. Barker, Chairman.

Benjamin G. Smith, from the Committee, read the Annual Report of the Fruit Committee.

Charles N. Brackett, Chairman, read the Annual Report of the Vegetable Committee.

These reports were severally accepted and referred to the Committee on Publication.

JOEL FALES, of Walpole, was elected to membership.

Adjourned to Saturday, December 11.

BUSINESS MEETING.

SATURDAY, December 11, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, Vice-President P. B. HOVEY in the chair.

The Annual Report of the Library Committee was read by the Chairman, Edward S. Rand, Jr. Accepted and referred to the Committee on Publication.

The Annual Report of the Garden Committee was read by John G. Barker. Accepted and referred to the Committee on Publication.

J. Warren Merrill introduced the following petition:

To the Honorable Senate and House of Representatives in Congress assembled:

Your petitioners respectfully represent that there is great need of a convenient, reliable, rapid, regular, and cheap mode of sending seeds, cuttings, bulbs, grafts and small plants, samples of merchandise, books, and many other small articles, and that the Post Office Department alone can supply this need. We therefore respectfully petition your honorable bodies to reduce the present rate of charge on such matter one-half, and to authorize the affixing of names, numbers, or letters to all such articles so sent as will enable the sender to designate them to the receiver.

And we also ask an enactment that will forbid the opening of any such package until it reaches its destination, when, if it proves to contain unlawful matter it shall be subjected to letter postage.

Voted, That a committee of five, of which the President shall be chairman, be appointed with full powers in behalf of this Society to petition Congress for the enactment of a law for the better and cheaper transmission of third-class mail matter.

Marshall P. Wilder, J. Warren Merrill, Robert Manning, and Edward S. Rand, Jr., were appointed, and the above petition was signed by the Committee in behalf of the Society, and also by a large number of the members.

Voted, That the Committee of Arrangements be requested to make a report of their doings, beginning with the year 1876.

William C. Strong, Chairman of the Committee on Discussion, announced that a Prize Essay by Dr. D. D. Slade, on Landscape Gardening, would be read next Saturday.

Adjourned to December 18.

BUSINESS MEETING.

SATURDAY, December 18, 1875.

An adjourned meeting of the Society was holden at 11 o'clock, President PARKMAN in the chair.

The President announced as additional members of the Committee on the Centennial, Edwin W. Buswell and Hervey Davis.

Further time was granted to the Treasurer, the Finance Committee, the Committee on Publication and Discussion, and the Editor, to prepare their several reports.

Meeting dissolved.

MEETING FOR DISCUSSION.

At this meeting the following Prize Essay was read by the author:

THE PRINCIPLES OF LANDSCAPE GARDENING, AS APPLIED TO SMALL SUBURBAN ESTATES.

BY DANIEL DENISON SLADE.

No one in our country has done more to elevate the taste and improve the judgment of the people in all matters relating to rural embellishment than the late A. J. Downing. His writings are marked by a degree of simplicity and truthfulness which renders them almost universally applicable, while at the same time, they evince an ardent love of the subjects upon which he treats.

The examples of his supervision and handiwork wherever they exist, are also truthful expressions of the noble art in which he so assiduously labored, and in which he may be said to have been the pioneer. In thus recalling his name to memory and in giving his own words upon Landscape Gardening, we would testify our admiration of the man and his works.

Downing says,* "By Landscape Gardening we understand not only an imitation in the grounds of a country residence, of the agreeable forms of nature, but an *expressive*, *harmonious*, *and refined*

* Treatise on Landscape Gardening.

imitation. In Landscape Gardening, we should aim to separate the accidental and extraneous in nature and to preserve only the spirit or essence. As an art, it does not consist as many seem to suppose, in producing a counterfeit of nature, but in *idealizing* natural beauty in a lawn, park, or garden."

A later writer, Edward Kemp,* upon this same point makes the following observations: "It may be worth while then to specifically enquire how far the *imitation* of nature is possible and right. I profess not to be of those who would carry this principle very far or into minor matters. It is in her broader teachings and general promptings that material should be gathered for practical use, and these, be it remembered, will be solely available in idealizing and exalting art. Reflections such as these, will make it plain that they who would imitate nature must do so in another way than by copying her piece-meal. They ought indeed to be *imitators* but not copyists, transcribing her spirit and not her individual expressions—her general countenance and aspect, and not her particular features."

When we take into consideration the infinite variety of circumstances which must necessarily govern in all that pertains to the laying out of even the smallest estate, whether country or suburban, and which must depend upon the habits, tastes, and associations of the owners, the situation and shape of the estate, the position and character of the dwelling and its surroundings, it is at once evident that it must be impossible to lay down any fixed laws which would be alike applicable in all cases. There are, however, certain general principles which if faithfully practised, will lead to successful results. And this is true, not only in regard to the art of Landscape Gardening, but also to that of Architecture, with which it is closely allied, and of which we shall speak in connection. Before entering upon these, it would seem necessary for the better understanding of our subject to consider briefly the characteristics which mark the two variations in natural scenery, known as the Beautiful and the Picturesque.

The Beautiful is characterized by easy flowing lines, by an absence of all abruptness, by harmony and symmetry. In ground, it is marked by gentle undulations. In trees and shrubbery, by roundness, fulness, and a luxuriance of growth, as exhibited in a

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* How to lay out a Garden.

fully developed American elm. In water, by the placid lake, spread out between gradually sloping banks, or by the gently flowing, winding river or brook.

The Picturesque, on the contrary, is marked by the very opposite qualities. The ground is characterized by abruptness, and by irregular outlines. The trees by boldness and ruggedness as in the oak, and by a certain rigidity, as well as wildness, as in the mountain pine. The lake is bordered by steep and rocky shores, the river, with precipitous banks, is hurled along in a tumultuous course, while the very brook partakes of the same uncontrollable nature.

Price says,* "It is evident that picturesqueness and beauty are founded on very opposite qualities; the one on smoothness, the other on roughness — the one on gradual, the other on sudden variation — the one on ideas of youth and freshness, the other on that of age and even of decay."

Such are some of the chief distinctions between these two expressions as exhibited in natural scenery. It remains for us to determine how far these expressions can be reproduced, or at least how far art can exert her sway without fear of their violation or disfigurement.

Modern Landscape Gardening may be divided into three styles or forms, which may be described as the Mixed or Gardenesque, the Picturesque, and the Formal, Geometrical, or Ancient style.

The first or Mixed style is characterized by the freedom of nature, restrained by and blended with art. In this form we may have the regularity and grace, the polish and refinement, which properly belong to the Beautiful alone, or we may have it mingled, or rather adroitly losing itself, in the Picturesque. In its production we shall suppose the surface of the ground to already possess those gentle undulations, which characterize the Beautiful in nature, for there can be no more foolish expenditure of time and money than for private individuals to undertake to effect this by artificial means, except perhaps to the most limited extent. The plantations should be so grouped and arranged as to give free development to the trees and shrubs, which should in themselves possess both luxuriance and symmetry. The same remarks apply also to the thinning out of belts or plantations of native growth.

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* An Essay on the Picturesque. By Uvedale Price.

Proper care and judgment should be exercised to avoid the methods too frequently practised of leaving single trees, which, having been drawn up in their growth, are devoid of beauty and proportion, and are liable to be prostrated by the first severe gale. They should rather be left in groups of large size which may be thinned out from time to time as occasion may demand. The walks and roads generally should be serpentine, and should follow the natural shapes of the surface, avoiding all abrupt angles. The lawn should be of the most velvety softness, and neatness combined with the most perfect order should characterize every portion of the estate.

The second or Picturesque style is marked by "extreme naturalness." Art is allowed to intrude only in the most limited degree, and is confined for the most part to those portions of the estate immediately adjacent to the buildings. The surface of the ground is to be retained in all its irregularity. The plantations, copses, and dells already existing are to be left untouched. The walks, while they are more or less angular, should be free from formality, and at a distance from the house may be allowed to become mere footpaths. The grass plots contiguous to the dwelling are of necessity to be kept with scrupulous neatness, but those at a distance are to have less care bestowed upon them. In the formation of plantations, all uniformity is to be avoided. Every kind of tree indigenous to the soil may be employed, but a predominance should be given to those that possess boldness and irregularity of outline. The groups formed, should be allowed to run into each other, and to attain their growth in the most unrestrained manner.

The third style, the Formal or Geometrical, is easily described, consisting as it does in regularity, uniformity, and the predominance of art over nature. Kemp says :* "The forms of nature which it impresses into its service are simply those which have the closest affinity to its own characteristics, and are in fact most artificial. Flights of steps, balustraded walls, terrace banks, symmetry and correspondence of parts, circles, ovals, oblong and angular beds, exotic forms of vegetation, raised platforms and sunken panels, are some of the materials with which it deals."

This style is a carrying out of the form and outlines of the building into the garden and grounds adjacent, and in consequence is more closely allied to architecture than the other forms.

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*How to lay out a Garden.

We have already remarked that there were certain general principles in architecture, which must be recognized by those who would best succeed in Landscape Gardening. This fact does not seem to have received the attention which its importance demands. We have much need of the architect who shall combine a knowledge of the two arts—a combination only to be acquired by him who is at once the true lover of nature as well as of art—and who can comprehend within his glance the harmonious relations which should exist between the dwelling and its surroundings. Of these general principles we shall speak more particularly of Fitness, Purpose, and Style.

Fitness is seen not only in the convenient arrangement of the dwelling and in its situation as regards shelter and salubrity of soil, but especially in the material of which it is constructed. Owing to the great abundance, and the facilities for procuring it, wood has long been considered the most economical as well as the most suitable material for building, not only in the country villages, but even in many of the cities of New England.

In the nature of circumstances, this condition, as regards economy, cannot continue longer, for suburban residences may now be erected of either stone or brick, quite as cheaply as of wood. The first cost may undoubtedly be greater, but, if we take into consideration the constant repairs necessary and the frequent painting requisite for the preservation of wood, a very few years will show a balance in favor of the other materials. In respect to the suitableness, we maintain that either stone or brick will be found vastly superior, not only in point of durability and solidity, but also of comfort and external appearance. In fact there seems to us an entire absence of all fitness in the construction of a suburban dwelling of wood, no matter how pleasing may be its outlines, and more especially when it is surrounded by the embellishments which the hand of taste and the love of nature can create. The very idea of its want of solidity strikes us unpleasantly, and the same remark applies to all the appurtenances of the garden and adjoining grounds, such as balustrades, terrace walls and steps, pedestals, obelisks, etc., when made of this material.

Our views are entirely corroborated by Downing, when he says :* "In point of taste, a house built of wood strikes us the least

* Cottage Residences.

agreeably, as our pleasure in beholding a beautiful form is marred by the idea of the frailness of the material composing that form. We are aware that the almost universal prevalence of wooden country houses in the United States has weakened this impression, but the strength with which it strikes a European accustomed to solidity and permanence in a dwelling, is the best proof of the truth of our remark. And even in this country, the change of feeling which is daily taking place on this subject, shows very plainly in how little estimation wood will be held as a building material compared with brick or stone by the next generation."

The chief objection made to dwellings of stone is dampness. This, however, may be entirely avoided if proper care is taken in the "furring off." The furring should be done by studs secured to the floor timbers above and below, and having no connection whatever with the external walls. Or, in place of this, a lining of brick with a space of several inches between it and the stone will give greater security against fire as well as greater durability.

Brick may often be procured in the suburbs of our cities more easily than stone. It must be allowed that a brick house in the country proper does not often suggest pleasant associations, but this is owing to the ugly combinations that we have been accustomed to see. Bricks are susceptible of very pleasing effects if properly managed, as has been most abundantly shown within the last few years. For the suburban villa, cottage, or tenement, in many cases we should advocate the use of the rough, hard-burned brick in preference to the pressed, not only in point of economy, but from the fact that vines will cling to them more securely, producing a drapery which art cannot rival.

The principle of Purpose in architecture is suggested by the general appearance, or by certain features of a building; as the spire is suggestive of the church, so the windows, chimneys, porches, etc., are suggestive of the dwelling house. If then the characteristics of a building are essential to the expression of Purpose, these should be made prominent, or, at least, no attempt should be made at concealment.

The color to be given to buildings, may be properly considered in connection with the principle of Purpose. In our selection we should take nature as our guide, choosing those colors which harmonize with the natural objects about them. Neutral tints are always to be preferred for suburban residences to the positive

colors. A pure white should never be selected, as it harmonizes with nothing about it. The weather-stained tint of old houses offers the most useful lesson possible in the way of harmonious coloring.

The principle of Style is of great importance, and to this we often see all other principles of architecture sacrificed. Whatever may be the style adopted, there are certain rules to be observed.

First, there should be a unity — an adherence to the particular style chosen, without admixture with another.

Next, there should be uniformity and symmetry in the principle of Style. With the majority of individuals, regularity in a building, such as would be seen in a square house, would be preferable to irregularity, although accompanied with perfect symmetry; the perception of beauty in the latter requiring a higher cultivation of the taste and imagination.

Then again, in the adoption of any particular style, we should be guided by its adaptation to the uses intended. Thus the style of the suburban cottage should be simple and unobtrusive, no matter of what material constructed, while that of the villa or mansion may be more elaborate and dignified. The building should also be in unison with the surroundings. If these are quiet and beautiful, partaking of the Mixed or Gardenesque form, then it should correspond by its simplicity of outline, and by a certain refinement and polish. This is perhaps best exhibited in some of the classical modes of architecture, such as the Italian, Tuscan, or Venetian.

If on the other hand, the scenery, as well as the adjacent grounds, is wild and picturesque, constituting what we have spoken of as the Picturesque form of landscape gardening, the style of architecture will admit of more irregularity, and of a ruder kind of ornamentation, such as presented by the old English, the Swiss, and some forms of Gothic.

Associated most closely with the ancient or Geometrical form of landscape gardening, are the Italian and Elizabethan styles of architecture. Kemp says,* "Gardening and architecture, like all the fine arts, have much in common. And that department of architecture which belongs more exclusively to the garden, has especially a great affinity with gardening in its broader principles.

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* How to lay out a Garden.

In fact, there is much more relation between the two than is usually admitted, or than the ordinary products of practitioners in either art would at all justify us in believing.

Modern tendencies in gardening have been too much *away* from its character as *an art*, and the more it is restored to its legitimate position, the more nearly will it be brought into kindred with architecture."

We confess to a great admiration for these old, stiff, formal gardens, with their accompanying architecture. They are well suited, not only for the squares and parks of cities, but also for country estates, and for small, suburban places in which there is little opportunity for variety and irregularity. In a modified way, they constituted the gardens of our fathers in New England, not only as they knew no other forms, but as they were pleasant reminders of other shores dear to their recollections. We should like to see them occupying a prominent place in the tastes of the people at the present day, when everything that smacks at all of antiquity is seized upon and treasured.

William Howitt* speaks thus pleasantly of these old gardens: "The hands of Bridgman, Kent, and Brown, and the pens of Addison, Pope, and Walpole have put all this ancient glory of Roman style to the flight, and driven us, perhaps, into danger of going too far after nature. The winding walks, the turfy lawns, the bowery shrubberies, the green slopes to the margin of waters, the retention of rocks and thickets where they naturally stood—all this is very beautiful, and many a sweet, elysian scene do they spread around our English houses. But in imitating nature, we are apt to imitate her as she appears in her rudest places, and not as she would modify herself in the vicinity of human habitations. We are apt to make too little difference between the garden and the field, between the shrubbery and the wood. We are come to think that all which differs from wild nature is artificial, and therefore absurd. It has been the fashion to cry down all gardens as ugly and tasteless, which are not shaped by our modern notions. The formalities of the French and Dutch have been sufficiently condemned; for my part, I like even them in their place. One would no more think of laying out grounds now in this manner, than of wearing Elizabethan ruffs, or bag-wigs and basket-hilted

* Rural Life of England.

swords; yet the old French and Dutch gardens, as the appendage of a quaint old house, are in my opinion, beautiful. They are like many other things, not so much beautiful in themselves, as beautiful by association, as memorials of certain characters and ages. A garden, after all, is an artificial thing, and though formed from the materials of nature, may be allowed to mould them into something very different from nature. There is a wild beauty of nature, and there is a beauty in nature likened to art; one looks for a very different kind of beauty in fields and mountains, to what one does in a garden.

When we bear in mind that many of those artifices and figures which we have been accustomed to treat with contempt as Dutch, are in reality Roman; that such things once stood in the magnificent gardens of Lucullus and Sallust, that the Romans gathered them again from the Eastern nations; that they are not only classical, but that, like many of the rites of the church, and religious festivals, they are the relics of the most ancient times; I think we shall be inclined to regard them with a greater degree of interest, not as objects to imitate, or to place in any competition with our own more natural style, but as things which are of the most remote antiquity, and give a curious diversity to our country abodes."

Of the general principles applicable to small suburban estates, we shall first speak of *Adaptation*.

It not unfrequently happens that an estate comes into one's possession upon which certain undesirable features may be presented either by the dwelling, or by the grounds, or by both, with which it is impracticable, or at least not desirable, to interfere. The only course to be pursued, in such a case, is to make the best of existing circumstances; and it is in this adaptation of means to ends that the executive abilities of the man of taste and good judgment are best exhibited, tending often to the production of the very best results.

Congruity is one of the most important principles to be kept in view in the arrangement of the smallest estate, and is one that is perhaps more frequently violated among us than almost any other. For example, it is not uncommon in looking from the house, to see upon one side of the estate, plantations of trees and shrubs arranged in natural order, and on the opposite side, a straight avenue flanked by trees in a formal manner. Here is an evident

incongruity. Again, the introduction of fruit trees among those which are strictly ornamental, especially upon a lawn, strikes the eye of taste unpleasantly; so also does the presence of vegetables among the garden flowers.

The disposal of architectural ornaments in a style different from the main house, immediately about and attached to it, as for example, those of a rustic character, are instances of the want of congruity. On the same principle, the attaching of a common greenhouse to a dwelling of any pretence to architectural style cannot be admissible.

In the arrangement of an estate, there should be one expression or leading feature, to which the others should be subordinate. This principle, termed *Unity*, should be recognized even more in small estates than in large ones, for the reason that its violation in the former is more striking and more quickly detected.

Unity, however, should not interfere with the proper introduction of *Variety*, which should be shown in the plantations, in the walks, flower-beds, and in the various garden ornaments, as well as in the vistas, recesses, pieces of water, etc. "Variety must be considered as belonging more to the details than to the production of a whole. By producing intricacy, it creates in scenery a thousand points of interest, and elicits new beauties through different arrangements and combinations of forms and colors, lights and shades."*

Simplicity is an essential element in the laying out and embellishment of the small suburban estate. It is not inconsistent with the other principles of which we have spoken, nor is it incompatible with true elegance and refinement.

Convenience never should be sacrificed to ostentation and extravagance, as is too often the case. Perhaps this mistake is more frequently made in the disposition of walks and roads than in any other way. Mr. Mitchell tells us in very pleasing words what guides we should follow in this matter.

"A walk," he says,† "is first of all a convenience; whether leading from door to highway, or to the stable court, or through gardens, or to the wood, it is essentially, and most of all, a convenience; and to despoil it of this quality, by interposing circles or curves, which have no meaning or sufficient cause, is mere

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* Downing's Landscape Gardening. † My Farm of Edgewood.

affectation. Not to say, however, that all paths should be straight; the farmer, whose home is at a considerable remove from the highway, and who drives his team thither, avoiding rock and tree and hillock, will give to his line of approach a grace that it would be hard to excel by counterfeit. Pat, staggering from the orchard under a bushel of Bartlett pears, and seizing upon every accidental aid in the surface of the declivity to relieve the fatigue of his walk, zigzagging as it were in easy curves, is unconsciously laying down — though not a graceful man — a very graceful line of march. And it is the delicate interpretation of these every day deflexities, and this instinctive tortuousness (if I may so say), which supplies, or should supply, the landscape gardeners with their best formulæ."

The gardens, both flower and vegetable, should be of easy access, the stables and out-houses should be in sufficient proximity, and nothing which can contribute to comfort and convenience should be overlooked.

For the full enjoyment of even the smallest suburban estate there must be a degree of *Seclusion*. Not to be able to walk in one's garden, to meditate or walk therein, without being subjected to the gaze of neighbors or the passers by, is a condition which is not agreeable to the refined mind. This seclusion need not be such as to entirely deprive one of vistas into the distant or adjacent country, which are important addenda to every place, and for which every provision should be made, but it should be sufficient to afford that sense of quietude and freedom from interruption so dear to every man, especially a professional one, after the cares and labors of the day.

This seclusion is to be obtained by a judicious disposition of plantations and hedges, and not by high walls and fences, unless in exceptional cases.

Having thus marked out the general principles which should govern in the laying out and embellishment of the small suburban estate, it remains for us in conclusion to add that there are a vast number of places, which from the nature of circumstances, do not admit the application of any principles beyond those which neatness and order afford. And this remark applies especially to the suburbs of Boston, where there are a greater number of small estates, naturally adorned to a remarkable degree, than about any other city in the Union.

The cultivation of trees and shrubs, a well kept lawn, and a distribution of flowers constitute all that can be expected therein.

Where in other cases greater results might reasonably be looked for, — there being neither lack of means nor opportunities, — we must attribute the failure to appreciate the beautiful in nature to a want of early æsthetic culture,—a neglect in education which it behooves us not to have laid at our door by the rising generation of our countrymen.

Discussion.

H. Weld Fuller expressed his admiration of the care and taste evinced in the essay. He agreed with the essayist in approving Downing's division of natural scenery into the Picturesque and the Beautiful. Each of these classes must have its appropriate treatment — in Picturesque scenery the intricacy and ruggedness may be increased, while in the Beautiful the natural polish may be intensified. In both we should seek for harmony and congruity, and avoid abrupt transitions from one to the other. In regard to flowers, Mr. Fuller said that Nature spreads hers with great care and delicacy, and not in such profusion as to cause disgust. In wild landscapes they should be used sparingly, but in the Beautiful, where they more properly belong, they may be used more freely. He had been pleased with the remarks of the essayist on the congruity of buildings with the landscape, though he did not like the natural color of brick for country houses. He preferred wood colors. Away from the city, the Gothic style, the lines of which approach the forms of forest trees, is often appropriate. In laying out avenues through grounds, we should generally show a reason for deviations from a straight line; but may not a beautiful lawn, well displayed, be a sufficient reason? The attempt to make all situations yield to a given form would be vain. Every place must be treated according to its own peculiarities, position, and scenery. Thus in the Lyman place in Brookline, one of the most beautiful in Massachusetts, a straight avenue is the most natural approach, while the Goddard place can best be approached by a curve. Straight lines may be used in a vista, but, as remarked in the essay, they should not be closely planted on one side of the way where the other is arranged in the natural and irregular style. Mr. Fuller concluded by

saying that while it is not possible to lay down specific rules for the arrangement of all grounds, yet we may and must be guided by certain principles, which are not to be violated; and he expressed his warm approval of those laid down in the essay.

Rev. A. B. Muzzey said that he had been both pleased and instructed by Dr. Slade's essay, the completeness of which is due, not only to the study of the best authorities, but to his own reflections and original views. The remark that nature is to be *imitated*, not *copied*, was new to him; and he thought there was a great deal of sense in it. We should not seek for what is novel and strange, nor, on the other hand, should we be servile copyists, but keep under the spirit and influence of nature. In earlier times the great drift of all our activity in architecture and gardening was in the direction of utility; but now the nation has progressed far enough to make an advance on this principle, and give some attention to æsthetics. The Great Architect, in his creation does not regard solely the principle of utility. In building houses and laying out grounds we often see vast sums expended with a painful disregard of the true principles of beauty. Mr. Muzzey wished the Society could be the means of diffusing a better knowledge and taste on this subject and hoped that Dr. Slade's essay would be widely circulated, as it laid down correct and important principles of beauty.

President Parkman said that devotion to the principle of utility is not the only difficulty we have to encounter. Besides that, there is a tendency in people, especially in those who have suddenly acquired wealth, by a lavish display of it to assert their equality or superiority over others. The principle of utility as well as beauty is thus sacrificed to a tasteless ostentation, and he hoped that we might encounter both these enemies successfully.

Mr. Fuller expressed the hope that the statement in the essay that greenhouses should not be attached to mansions, would be confined to common greenhouses or propagating houses. While he would object to "lean-tos" and awkward structures, he certainly should approve of a fine conservatory opening from the dining room or hall.

Dr. Slade replied that he made a distinction between conservatories corresponding in architectural character to the mansion, and greenhouses of the common style.

Charles M. Hovey thought the essay very correct in its general

ideas. In all suburban residences of the smaller size it should be impressed on the owners not to attempt too much; it should be understood at the outset that gardening is a luxury, and cannot be carried out successfully and satisfactorily without expense. How often do we see a fine residence erected at great cost, and then all improvements of any importance cease; the expense of mowing the lawn every ten days, keeping up the walks in firm condition, dressing the flower beds, etc., being too great for the purse of the owner. He thought the ordinary "lean-to" greenhouses, adjoining a mansion, entirely out of place, but for such situations they can be erected of wood or iron in style suited to the main building and without detracting from the general architectural effect, though the expense of such structures would be considerable. Too often utility is the all absorbing motive, and we frequently see persons erect greenhouses for the sale of the surplus product. As long as this is done there can be no true progress in artistic gardening. We too often see places which cause no other remark than on the amount of money expended, instead of exciting our admiration by the beauty of the plants or the artistic arrangement of the grounds. He thought Dr. Slade correct in regard to the principle of congruity, as well as of repose and seclusion about our suburban residences. In a visit to Rochester, N. Y., recently, he found people removing their front fences and throwing their grounds open to the street. There was there no opportunity to enjoy your own garden by yourself. Mr. Hovey would do away with interior fences, which too often mar the premises, but he would retain a front fence, ornamented perhaps with vines, and grouped with low shrubs, so as to afford that degree of seclusion which should be a character of every suburban home. He believed that the publication of the essay would lead to a better examination of the whole subject of Landscape Gardening. He questioned, however, the correctness of the division into the Picturesque and Beautiful, and preferred Mr. Loudon's division into the Picturesque and Gardenesque.

William C. Strong agreed with the President in his remarks and, to some extent, with Mr. Hovey's ideas in regard to front fences. As the essayist had said, we want to be protected from publicity, but Mr. Strong said he would have also a sense of openness; he disliked high fences and close hedges, but he would plant trees so as to afford protection without causing exclusiveness, and

he spoke of the advantages in this respect of the dwellings which he had seen fronting on parks in London and Liverpool. While admitting the force of what the essayist had said respecting protection from publicity, he would as much as possible preserve the appearance of openness, especially around small suburban homes, and would be careful never to plant so as to create dampness or produce a feeling of exclusiveness.

REPORTS.

REPORT

OF THE

COMMITTEE ON PLANTS AND FLOWERS,

FOR THE YEAR 1875.

By JOHN G. BARKER, Chairman.

In making up our report of the past season's work we perform a duty which, although somewhat arduous, is still in many respects pleasant, for looking over our notes of the various exhibitions brings to mind the many times that we have met each other, and the pleasant circumstances that have called us together. There is no pursuit which so much as that of horticulture brings the thoughts and minds of all near each other, and those of the creature to the Creator. All the exhibitions have been very successful, and the various prizes have been more largely competed for than at any previous season. The impromptu exhibitions have, as last year, been of great interest, and have brought out some of the rarest and best of Flora's productions. The attendance of visitors has been numerous, and it must have been gratifying to them to witness the excellent displays, which have proved not only pleasant but a source of instruction to all interested in horticulture. The evident gratification manifested by the visitors may be regarded as good proof of the favor in which the exhibitions are held. Now that our premiums are open to all, may we not reasonably expect a much larger competition for the various prizes, and a correspondingly increased interest in our work? Those whom we have been accustomed to look upon as regular exhibitors have been constant with their contributions, and we have been permitted to welcome some new ones. In endeavoring briefly to call attention to some of the most interesting objects, we find it a matter of no little difficulty, where all have been so good, to select for

notice that which is best, and instead of giving a detailed report of each exhibition separately we have taken up the different subjects by themselves.

Cyclamens.—The principal exhibitors were James O'Brien and C. B. Gardiner, and the well grown plants shown by these gentlemen were fully equal to those of last season, and showed that no pains had been spared in their cultivation. The plants exhibited on the 13th of February, that being prize day, were splendid specimens, with fine, healthy foliage, and a very large number of buds and flowers, which were well up above the foliage, showing the pretty blooms to good advantage, and fully sustaining the well earned reputation of these gentlemen as successful growers of this useful and beautiful plant.

Camellias.—As in past seasons, Hovey & Co. and Marshall P. Wilder have been the principal exhibitors. March 13th being premium day, a splendid display of twenty-seven named varieties was made by Hovey & Co., besides one of the handsomest baskets that has ever been exhibited, and also twelve fine seedlings. On the 30th of January the same gentlemen exhibited splendid flowers of Mrs. Anne Marie Hovey, C. H. Hovey, and Louisa; and again on the 2d of April a very handsome collection of seedlings, numbered from 1 to 15. The camellias from Hovey & Co. have always been quite a feature of our exhibitions, but your Committee think that the displays of the past season have been the best that have ever adorned our tables; particularly noticeable have been the magnificent seedlings, embracing nearly every shade of color, some of them very delicately marked. Marshall P. Wilder exhibited on the 30th of January cut flowers of Mrs. Julia Wilder, and on the 20th of February cut flowers of Mrs. Abby Wilder, which were exceedingly fine, showing five different gradations in color, from a pure white to a deep rose. James Comley exhibited a small plant of the new Camellia, Giovanni Santarelli.

Orchids have been exhibited by E. S. Rand, Jr., James Cartwright, Hovey & Co., Mrs. Gardner Brewer, and C. T. Hubbard. For Winter Blooming Orchids, March 13th was the prize day, when E. S. Rand, Jr., exhibited the following named species:

Cypripedium villosum.—A desirable species from the East Indies. The flowers have a fine glossy appearance over their whole surface, which is orange red intermixed with light green and dark purple; it continues a long time in flower.

Dendrobium nobile.—One of the best of orchids, of easy cultivation and free flowering, deserving a place in every collection of plants. It will do well in a warm greenhouse.

Dendrochilum glumaceum.—A very pretty species with small evergreen foliage. The flower spikes are very graceful, the flowers greenish white, very delicately scented, and last some time in perfection.

Eria stellata.

Lycaste Skinneri.—A fine winter blooming orchid from Guatemala; the flowers large and numerous, of singular form and rich color, and peculiarly attractive.

Zygopetalon Gautieri.

Saturday, July 24th, being premium day again for orchids, Mr. Rand exhibited the following varieties:

Aerides odoratum.—A fine, free growing species from India, one of the most abundant flowering of the genus. The blossoms are white, stained with pink, and have a delightful perfume.

Gongora atropurpurea.—A curious species from Trinidad.

Oncidium hæmatochilum.—A scarce orchid from New Granada; the habit is in the way of *O. Lanceanum;* sepals and petals of greenish yellow, blotched with chestnut; the lip a rich crimson and rose.

Oncidium sphacelatum majus.—A free flowering orchid from Honduras, producing long branching spikes of yellow flowers barred with dark brown.

Miltonia spectabilis.—A fine orchid from Brazil.

Thunia alba.

Vanda tricolor.—A splendid specimen; a native of Java.

In addition to the above at various times through the season we have been favored with specimens of the following named fine varieties from Mr. Rand's collection:

Aerides suavissimum.—The first time that this plant has been exhibited. It is quite distinct and seemingly of free growth. The sepals and petals are white, the lip having a blotch of yellow in the centre edged with white.

Brassavola lineata.

Cattleya Skinneri.—From Guatemala, a free flowering and beautiful plant; the flowers are a rosy purple; it is one of the best of the genus.

Cœlogyne cristata.—A dwarf evergreen species from Nepaul,

producing magnificent flowers on a drooping spike from the bottom of the bulb. They are of a beautiful white, with a blotch of yellow on the lip.

Cœlogyne speciosa. — A curious orchid from Demerara; the flowers are of a pale yellow.

Cypripedium Lowii.—A beautiful orchid from Borneo.

Cypripedium superbiens.—This handsome species is a native of Java, and is one of the best of the *barbatum* group; the foliage is finely variegated, and it continues a long time in bloom.

Dendrobium anosmum Dayanum. — A fine species from Manilla.

Dendrobium Wardianum.—A small plant, but having the appearance of being a magnificent orchid; it is figured in Warner's "Select Orchidaceous Plants."

Epidendrum macrochilum atropurpureum.—A good plant with three spikes of flowers.

Lælia Lindleyana.—Very distinct both in flower and growth; the foliage is like that of *Brassavola venosa*, and grows about eight inches long; sepals and petals of rosy white; lip of the same color, with the exception of the bottom part, which is dark rose. It blooms at different times of the year, and continues in perfection six weeks. (Williams' Orchid Grower's Manual.) This is the first plant that has been exhibited.

Leptotes serrulata.—This is a small genus from Brazil. The species is a very pretty one.

Odontoglossum grande.—A splendid species from Guatemala; the flowers are very beautiful and last in perfection several weeks.

Oncidium cornigerum.—The flowers, which are yellow, spotted with red, are very beautiful. It is a native of Brazil.

Oncidium Kramerianum.—In habit like *O. papilio*, and a very fine orchid.

Oncidium leucochilum.—A desirable species from Mexico.

Phalænopsis amabilis.—From Manilla, and very appropriately called the queen of orchids.

Pilumna fragrans.—Exhibited for the first time. In habit it is like *Trichopilia;* the flowers are produced on spikes; sepals and petals of greenish white, lip white; it is deliciously sweet scented.

Trichopilia suavis.—Two varieties of this magnificent species were exhibited.

James Cartwright sent, February 6th, a very fine plant of *Cœlogyne cristata*, having seven spikes of beautiful white flowers. It was a handsome plant and the species is the best of the genus. The flowers, if kept free from damp, will continue in perfection for several weeks. It succeeds well in a warm greenhouse. From Hovey & Co. came, May 15th, a small plant of *Cattleya Mossiæ*.

Mrs. Gardner Brewer exhibited on the 5th of June cut flowers of *Anguloa Clowesii*, *Cattleya Mossiæ*, *Calanthe veratrifolia*, and *Lælia purpurata*. C. T. Hubbard showed on the 24th of July a well grown plant of *Stanhopea tigrina*, a native of Mexico. Williams says it is the handsomest of the genus; the blossoms are very large, of a pale yellow, barred and blotched with deep chocolate.

Azaleas.—This exhibition occurred on the 10th of April; the exhibitors were Marshall P. Wilder, Hovey & Co., and James McTear. The plants from Mr. Wilder were large specimens grown in tubs, and were more fully referred to in a previous report. Those from Hovey & Co. were grown in eight inch pots, and were well trained plants in a fine variety. James McTear also exhibited a fine specimen plant of Flag of Truce, which was well grown and bloomed, with a handsome head; also six small plants of newer varieties, the names of which we did not obtain.

In addition to those already named, plants and cut flowers of some very fine varieties have been exhibited preceding and following this exhibition, principally from James Comley. Most noticeable among them were the following varieties, of which we give descriptions as far as we can:

Anna.

Baron Von Mandell.

Charmer.—Amaranth purple; good form and substance; distinct and fine.

Comtesse de Flandre.—Flower flat; light rose.

Coquette de Gand.

Donna Maria.—Tender rose, edged with white; a fine flower.

Duc de Nassau.—Very large semi-double flowers, broad and fine; dark rosy carmine, flame colored blotch; a handsome variety.

Duchesse de Nassau.

Elfride.

Flag of Truce.—Pure white, large and double; extra fine.

François de Taye.—Orange, upper lobes maroon edged with carmine; one of the finest varieties in cultivation.

Hendersonii.

Mad. Joseph Vervaene.

Mad. Vandercruyssen.—Very large flower; lively rose, large blotch.

Marie Van Houtte.—White, flaked with pink and striped with pale red; flowers semi-double and very fine.

Queen of Double Whites.

Snow White.

Souvenir de Leon Maenhaut.

Stanleyana.

Virgin Queen.

April 2d, H. H. Hunnewell exhibited two very fine specimen plants, which were trained in cone shape, and were some five feet high; they were in splendid condition, the fine healthy foliage contrasting beautifully with the flowers. The varieties were *Admiration*,—pure white flowers, spotted and flaked with carmine, large, of fine form and substance, an extra fine variety; and *Eulalie Van Geert*,—blush pink, with dark spots, flowers large, good form and substance.

May 22d, the same gentleman sent twelve plants which, although not as large, were in equally as good condition as those just mentioned, and showed that great pains had been taken in their cultivation. The beautiful foliage was particularly noticeable. The varieties were:

Alice.—Double; bright rose, dark spots.

Arthur Warocque.—Semi-double; bright rose.

Bernhard Andrea alba.—Pure white; large double flower.

Dominique Vervaene.—Bright orange red; large; very double.

Flag of Truce.—Pure white; large and double.

Mrs. George Merritt.—Rosy salmon; semi-double.

Reine des Pays-Bas.

Valerie.—Semi-double; orange with crimson spots.

Also three seedlings raised by F. L. Harris, gardener to Mr. Hunnewell, which promise well.

J. B. Moore exhibited January 23d, *Azalea obtusa*, which is said to be a distinct species from Northern China, producing fine bright scarlet flowers; and February 6th, eighteen varieties of cut flowers, most noticeable among them being the following:

Armide.
Etendard de Flandre.
Flag of Truce.
La Superba.
Punctulata variegata.
Queen of Roses.
Roi Leopold.
Snow White.
Vuurwerk.

February 20th, Mr. Moore brought plants of Vuurwerk, Bijou de Ledeberg, with variegated foliage, and Etoile de Flandre.

At the same time William Gray, Jr., exhibited three fine plants, grown in a natural style, all the training being the simple pruning of the shoots that grew out of place, with no tying whatever. These were handsome specimen plants, about three feet high and the same in diameter. The varieties were Criterion, Formosa, and Von Ghentiana.

It will be seen that azaleas formed a prominent feature at our exhibitions during the earlier part of the year, and, although the past season has witnessed an increased interest in this useful and beautiful plant, we hope, from the many large collections grown by the members of the Society, to see a further increase in the exhibition of the azalea.

Pelargoniums.—The special Pelargonium exhibition, although a new feature, was a decided success. Nearly two hundred plants were on exhibition, those from William Gray, Jr., alone filling the three platforms on the north side of the hall. Of late years a great deal of attention has been given to the cultivation and improvement of this beautiful and useful plant. As a bedding plant it has hardly an equal, and as a decorative plant for the greenhouse the fine tricolors and flowering varieties cannot be surpassed. The liberal premiums offered by the Society and the special prizes by William Gray, Jr., could hardly fail to bring out a beautiful exhibition. Hovey & Co., H. H. Hunnewell and William Gray, Jr., were the successful competitors. A list of the varieties that received prizes is appended, the descriptions of which may be found in any of the leading catalogues.

The Society's Prizes.

Zonales not variegated.

Albert Victor.
Circulator.
Delight.
Gloire de Corbeny.
Madame Mezard.
M. E. Buenzod.
Miss Gladstone.
Mrs. F. Burnaby.
Paul Brie.
Polly King.
Sir Charles Napier.
The Bride.

Variegated Zonales.

Eva Fish.
Excellent.
Florence.
Howarth Ashton.
Lass o' Gowrie.
Miss Burdett Coutts.
Miss Goring.
Mrs. Turner.
Peter Grieve.
Prince of Wales.
Prince Silverwings.
Sophia Dumaresque.

Bronzes.

Beauty of Calderdale.
Black Douglas.
Chieftain.
Danaë.
Emperor of Brazil.
Golden Gem.
John Offin.
Mrs. John Lee.
Prima Donna.
Reine Victoria.
Rev. C. P. Peach.

Double Zonales.

Asa Gray.
Aurora.
Deuil de Strasbourg.
Gloire de Nancy.
Jewel.
L'Année Terrible.
Madame Lemoine.
Marie Crousse.
Marie Lemoine.
Sceptre Lorraine.
Scintillant.
Triomphe de Thumesnil.

Gray Special Prizes.

Zonales.

Emile Licau.
Miss Gertrude.
Mrs. A. Miles.
Remus.
Renown.
Warrior.

Variegated Zonales.

Achievement.
Guardsman.
Lady Dorothy Neville.
Lass o' Gowrie.
Miss Goring.
Mrs. J. Clutton.
Peter Grieve.
Plutarch.
Prince of Wales.
Sir R. Napier.
Sophia Cusack.

Specimen Zonale, not Variegated.

Harold.

Specimen Zonale, Variegated.

Florence.

The above list is given for the benefit of those who are about making up or adding to their collections, and whoever selects from it may rest assured that he will get nothing but first class varieties in every respect.

The plants exhibited were all well grown, indeed superb. The Zonales were all that could be desired, and the trusses of bloom on some of the plants were very large and fine. The Variegated Zonales from H. H. Hunnewell, were the largest plants on exhibition of that class; they were very symmetrical in shape, and showed that they had been grown by skilful hands. Those from Hovey & Co., although not as large, were good specimens and well worthy of the prize they received. Those shown by William Gray, Jr., while not as large as either of the above, were the highest colored of any we have had the pleasure of seeing; they were really gorgeous, and had no other plants been shown than those of Mr. Gray they would have been an exhibition of themselves, but Mr. Gray thinks that he will have size as well as color another year. The Bronze varieties, although not as much cultivated as the Gold and Silver, are well worthy of a place in any collection, as the fine specimens from Mr. Gray fully proved. The Double Zonales exhibited by Hovey & Co., were as fine plants and as well selected varieties as we have ever seen. The single specimens from the same gentlemen were well grown plants, and very justly received the admiration of all.

March 6th, William Gray, Jr., exhibited for the first time, flowers of the following varieties:

Albert Grevy.
Albert Victor.
Argus.
Dr. Livingston.
Louis Froebel.
M. Littre.
Mrs. E. Naish.
Mrs. Musten.
Purple Prince.
Remus.
Vanguard.

The trusses were all small, being the first flowers that have grown on the newly imported plants, but were splendid, showing a great improvement on the older varieties, both as to color and size of flower.

May 22d, James McTear exhibited *Pelargonium quinquevulnerum*, *P. triste*, and *P. ardens*, species from the Cape of Good Hope.

It is to be regretted that at the Opening Exhibition on the first

Saturday in June, there was no competition for the prizes for show and fancy Pelargoniums. It would seem from the large number that are cultivated, and the liberal premiums offered, that the stands should be well filled. In former seasons there has been a spirited competition for this prize, and we trust that there will be in the future. The only specimens exhibited were from J. B. Moore, who showed six small plants of new and fine varieties.

Spring Herbaceous Plants.—Good collections were shown by E. S. Rand, Jr. and James McTear, but no list of either collection being received we are unable to give the names of any.

Tulips.—The only exhibitor was C. M. Atkinson, who showed ten fine named flowers.

Tree Pæonies were shown by Marshall P. Wilder and Hovey & Co., from whose unrivalled collections fine varieties always come.

Hardy Shrubs.—Good collections were exhibited by James Cruickshanks, James McTear, and Miss S. W. Story. Nothing new or specially remarkable was shown, but there was a good variety, proving that the cultivation of hardy shrubs is receiving a liberal share of attention.

Rhododendrons.—On the 3d of April H. H. Hunnewell exhibited two superb specimen plants, in pots, of Prince Eugene and Rollissonii. They were about three feet high, with very fine heads and full of bloom, the trusses of flowers being very large. At the pelargonium show the same gentleman exhibited plants of three magnificent Himalayan species—*Dalhousiæ*, *formosum magnificum*, and *Sesterianum*.

On account of the lateness of the season the award of prizes for hardy rhododendrons was postponed one week, to June 12. H. H. Hunnewell offered three boxes of choice varieties from his splendid collection, for the Society's prize. E. S. Rand, Jr., exhibited the following named twelve varieties, all of which are hardy, with perhaps the exception of Lady Armstrong.

Album Grandiflorum,	Grandiflorum,
Aureum,	Hannibal,
Bicolor,	Lady Armstrong,
Cœlestinum Grandiflorum,	Lee's Purple,
Everestianum,	Purpureum Grandiflorum,
Gloriosum,	Roseum Elegans.

For the Hunnewell Special Prizes, E. S. Rand, Jr., was the

only competitor, with a fine stand of named varieties. Hovey & Co. exhibited a small stand of fine flowers.

June 19th, E. S. Rand, Jr., again exhibited twenty-four varieties of choice rhododendrons. This was, indeed, a superb collection and well deserved the high encomiums it received from the large number of visitors. In addition to the twelve previously mentioned the following varieties were shown:

Album Elegans,
Candidissimum,
Daisy Rand,
Delicatissimum,
Gloriosum,
H. H. Hunnewell,
Lady Eleanor Cathcart,
Limbatum,
Onslowianum,
Purity,
Scipio.

Hardy Azaleas.—E. S. Rand, Jr., Hovey & Co., and Joseph Clark, each exhibited finely arranged stands of choice varieties. The largest number of varieties was shown by Mr. Rand, but the collections were all good. It is hoped that the very liberal premiums offered by Mr. Hunnewell for rhododendrons and azaleas, will bring out, especially for rhododendrons, a larger competition than they have the past season.

Roses.—During the earlier months of the year, we were favored with some very fine displays of roses, both of plants in pots and cut flowers. Those exhibited by James Comley, February 27th and March 13th, in pots, were the best specimens ever shown, and were a good proof of the skill of the exhibitor. The plants were in the best possible condition, the foliage rich and luxuriant, and the blooms very large. As many of them are new, we append a list of the best varieties which have not been described in our previous reports.

Abbé Bramerel.—Reddish crimson, shaded with dark velvety purple; large, full and good form.

Alfred Colomb.—Bright fiery red; large and full; one of the best.

Anna de Diesbach.—Clear rose, fine color; very large and showy.

Baroness Rothschild.—Pale, delicate rose, shaded with white; large and globular; one of the very best.

Belle Lyonnaise.—New.

Bessie Johnson.—Light blush; very large, double, and sweet; of excellent habit; a fine rose.

Centifolia Rosea.—Bright pink; large; of beautiful cupped form.

Coquette des Blanches.—Pure white; globular and large; the best white Hybrid Perpetual yet introduced.

Countess of Oxford.—Bright carmine red, shaded; very large, full, and fine form; foliage handsome.

Edouard Morren.—In the way of Jules Margottin, but of a lighter color; large and more double.

Etienne Levet.—Carmine; large, full, fine form; a seedling of Victor Verdier.

Francis Barlot.—New.

La France.—Beautiful pale peach, rose centre; very large and full; free bloomer; a good bedding and decorative rose.

Louis Van Houtte.—Reddish scarlet and amaranth, the circumference blackish crimson, shaded; very large; full, and of fine globular form.

Madame Georges Schwartz.—Fine Hortensia rose, changing to glossy rose; very large.

Madame Lefebvre Bernard.—Bright rose, tipped with white; freely produced, and very large.

Madame Scipion Cochet.—Beautiful lively rose; large and full.

Perle de Lyon.

Richard Wallace.—Bright rose, the petals slightly bordered with white; very large; full and of fine form.

Rosa Bonheur.—Pale rose; buds very fine; one of the best for forcing.

Souvenir de Général Douai.—Fine bright rose; almost full form; globular.

Mr. Comley has also at various times through the season made splendid displays of cut flowers, mostly of the varieties already described. Joseph Tailby, has shown fine buds of Climbing Devoniensis, Perle de Lyon, Marechal Niel, and Niphetos. James McTear, very fine vases of La Sylphide and Cornelia Koch. C. M. Atkinson, buds and flowers of La Sylphide and Duchess of Edinburgh. E. S. Rand, Jr., good collections of Tea Roses, fine sprays of Fortune's Double Banksia Rose, the best of the Banksias, a very interesting description of which is given in Parkman's "Book of Roses," page 153; and very fine flowers of the Cherokee Rose (*Rosa lævigata*), which is also described in the same work, page 196.

The special Rose Exhibition occurred June 28th; and, although

the queen of flowers, owing to the unfavorable season, was not up to the usual standard, the exhibition was a good one. Not only did those who are accustomed to exhibit bring in their best flowers, but we were glad to welcome several new contributors. At no time has so much enthusiasm been manifested as at this exhibition, and if we mistake not the intention of the growers, we shall witness next year a show of roses such as has never been seen in this country.

Of Hardy Perpetual Roses, the exhibitors were, President Francis Parkman, J. C. Chaffin, William Gray, Jr., J. H. Woodford, and James Comley. The names of these gentlemen, who are all well known as successful growers, are a sufficient warrant of the character of the flowers placed on exhibition.

For the Hunnewell Special Prizes, the exhibitors were J. C. Chaffin, Wm. Gray, Jr., and J. H. Woodford. The first prize for six named varieties was awarded to J. C. Chaffin; but we regret that we are unable to give the names of the varieties. William Gray, Jr., took the second prize with Mlle. Marie Rady, Paul Veron, Alfred Colomb, Dupuy-Jamain, Felix Genero, and Edouard Morren.

The first prize for the best twelve of one variety was also awarded to Mr. Gray for a stand of superb blooms of Madame Laurent, and the second prize to John C. Chaffin for Madame Victor Verdier.

For Hardy June Roses, there was no competition.

Tender Roses were shown by James Comley and E. S. Rand, Jr., each of whom exhibited some very fine flowers of the best varieties.

Moss Roses.—By far the best collections that have been shown for several seasons were placed on exhibition by A. McLaren, and others.

In the General Display, the exhibitors were Joseph Clark and J. S. Richards. The collection from Joseph Clark was very fine, filling four hundred bottles with the best varieties; the collection of Mr. Richards was very good.

Gloxinias have been exhibited by Joseph Clark, whose beautiful plants have been greatly admired by all. C. M. Atkinson also showed a very handsome single specimen plant, and Marshall P. Wilder a fine lot of seedlings, equal to any of the imported varieties. Col. Wilder has over six hundred plants which have

bloomed in less than eight months from seed. We had the pleasure of visiting his greenhouses the past season and witnessing his enthusiasm in producing new varieties of plants; indeed besides gloxinias there were many other seedling Gesneriaceous plants, while of azaleas there were hundreds. All these plants were produced from hybridized seed, and we expect to see the results of his rich experience in the exhibition of many new varieties at our hall the coming season. Mrs. A. D. Wood also exhibited some seedling gloxinias with remarkably large and well-formed flowers.

Wardian Cases.—W. H. Halliday and J. F. Mann were the exhibitors; the cases were very tastefully got up and neatly arranged with choice plants; they were fit to adorn any parlor.

Fern Cases were shown by W. H. Halliday and William Edgar; both fine specimens of neatness and good taste, and containing choice specimens of rare ferns.

Herbaceous Pæonies.—Hovey & Co. exhibited a collection of ten fine named varieties, and also Richardson's Seedlings, Nos. 1, 2, and 3, Rubra Superba, and Dorchester; the two last mentioned were very large and handsome and well deserve a place in every collection of herbaceous plants.

Sweet Williams were exhibited by James Nugent, A. McLaren, B. G. Smith and others. While they were all good, the larger part of them being of the auricula flowered class, there was nothing worthy of special note.

Summer Herbaceous Plants.—James McTear was the only exhibitor. His stand contained a very fine collection of choice varieties. Mr. McTear has always exhibited such collections, and we hope others will follow his example, and give us a little more competition in this valuable class of plants.

Delphiniums.—A good collection of named varieties was shown by A. McLaren, he being the only contributor.

Summer Phloxes.—James McTear and A. McLaren, exhibited good stands of named varieties, all distinct and fine, but not better than have been shown in previous seasons.

Summer Lilies were shown by W. K. Wood, Herbert Gleason, and J. S. Richards.

Picotees.—James Nugent exhibited ten very fine named varieties. There certainly is no choicer florist's flower than this, and we hope in future to see more of them at our exhibitions.

Fungi.—W. K. Wood and Mrs. E. M. Gill each exhibited a collection.

Balsams.—There was quite a spirited competition for the prizes offered for this beautiful annual. The best collections were those of J. B. Moore and James Comley.

Late Phloxes.—Hovey & Co. and James McTear each exhibited stands of fine named varieties, containing an excellent assortment of flowers, of distinct colors, fine form, and good heads. The stand from Hovey & Co. was especially noticeable.

Francis Parkman exhibited a fine seedling flower; large, good form, color white with deep crimson eye. James McTear exhibited a very fine seedling flower of medium size, color bright pink, deep cherry eye, and full spike. E. F. Washburn showed on the 4th of September a good seedling; pure white, light rose eye, free flowering and good habit.

Petunias.—Good collections were shown by James O'Brien, Mrs. A. D. Wood, and several other contributors.

Lilies.—James Comley exhibited two very fine pots of *Lilium lancifolium*, the largest and best we have seen. C. L. Allen, of Queens, N. Y., brought two pots of *L. longiflorum;* and Hovey & Co. *L. lancifolium* var. *Melpomene*, a splendid flower; color deep crimson, edged with white. *Lilium auratum* has been shown by various contributors; those most noticeable were a large plant grown in a tub, from Mrs. A. T. Perkins, containing one hundred and nineteen flowers and buds, though the individual flowers were small; and a single spike from Joseph Clark, having on it sixty-eight buds and flowers, the largest single spike ever exhibited. This, however, consisted of several stems merged into one, such as in *Lilium lancifolium* is known as var. *monstrosum*.

Native Ferns.—Two splendid collections were shown by J. Warren Merrill and Mrs. C. N. S. Horner, Mr. Merrill's being the best collection of native ferns ever shown. Besides cut fronds he exhibited a beautifully grown plant of *Lygodium palmatum*. Mrs. Horner's collection contained fifty species and varieties, and of that number, thirty-eight were obtained from their native haunts.

Gladioli.—The premium day was August 21st, when J. S. Richards, George Craft, H. Gleason, and James Nugent, exhibited very fine stands. The seedlings of Mr. Richards have been very noticeable, many of them almost equalling the best imported

varieties. Gladioli have been a very prominent feature at our exhibitions; the finely arranged stands of seedlings from week to week have given the hall a very brilliant appearance and attracted the notice of all. Not less inviting have been the splendid English and French varieties shown by W. H. Spooner, which for diversity of color, form, and substance have not been equalled. We give descriptions of some of the best, beginning with the new English varieties:

Astræa. — Scarlet crimson, white centre, carmine stripe.

Belgica. — Flesh color, veined with lilac.

Hesperia. — Orange scarlet, with rosy purple throat; large flower.

Lady Bridport. — Blush, flaked carmine and carmine stripe; fine flower.

Marica. — Lilac, flaked purple, yellow centre, violet stripe.

Mrs. Reynolds Hole. — White, with a lilac tinge.

Orbona. — Scarlet, flaked maroon, white centre, white line on each petal.

Una. — Scarlet, white centre, white line on each petal.

Victory. — Crimson flaked, purple centre; a fine flower.

Wonder. — Salmon red, flaked with rose, centre of each petal white, with a violet stripe; large flower.

Zalates. — Mauve, veined with rose, lower petals lilac.

Zama. — Crimson, with a large white centre.

A few of the newer and most desirable of the French varieties are next named.

Astrée. — Pure white, with distinct violet carmine blotch, throat suffused with pale lilac.

Grand Lilas. — Fine tall spike of large, perfectly arranged flowers of a beautiful delicate lilac, shaded darker towards the edges; a striking flower and vigorous growing plant.

Richard Cœur de Lion. — Fine spike of large flowers of a bright crimson red, flamed with garnet; lower petals spotted and blotched golden yellow; a flower of great substance and an uncommonly strong growing plant.

Themis. — Fine spike of delicate rose colored flowers, flushed with carmine, cream colored blotch; very beautiful and attractive.

From J. F. C. Hyde came a very fine seedling; flower white, of good substance and fine form; one of the best whites ever shown. From A. McLaren, three seedlings, one of which is worthy of

note, the flower being of a fine cherry color, with creamy yellow throat, the ends of the petals striped with carmine. On the 28th of August, J. S. Richards brought six seedlings selected from his large variety; we did not take any note of these further than that they were fine flowers. From Joseph C. Lowell, of West Boylston, came a collection of seedlings, which were all good, but not better than have been shown previously. We are glad to see that so much attention is being given to the cultivation of this valuable bulbous plant.

Asters. — The best display was on the 28th of August, which was premium day. The exhibitors were C. M. Atkinson, Hovey & Co., J. F. Rogers, Joseph Clark, John Parker, and James O'Brien. The collections comprised about twelve varieties of selfs and striped, which were very beautiful, the flowers being the largest that have been exhibited.

Verbenas. — The show of verbenas was better than usual. September 4th being prize day, good collections were brought in by J. B. Moore, Hovey & Co., Sarah W. Story, A. McLaren, and James O'Brien.

Native Plants. — This interesting department has been well represented, and has been of great interest to all lovers of our beautiful plants and flowers. Mrs. C. N. S. Horner and E. H. Hitchings have been indefatigable in their labors to procure the choicest kinds; their collections have always been fully appreciated, and have been centres of interest and instruction to the large number of visitors. Mr. Hitchings' collections are always made with great care, embracing only the choicest of our native plants; among them the following are worthy of mention:

Aletris farinosa (Star Grass). — See "Bigelow's Medical Botany," vol. III, pl. 50.

Drosera rotundifolia (Round Leaved Sundew).—These specimens were very large and fine.

Eupatorium — four species, *E. perfoliatum* (Thoroughwort), *E. pubescens* (Hairy Eupatorium), *E. purpureum* (Trumpet Weed), and *E. teucrifolium*.

Habenaria blephariglottis (Fringed White Orchis). — A very delicate and beautiful species, and quite rare.

Lilium superbum. — One of the most magnificent of our native plants. Stem erect, straight, from three to six feet high, bearing a large pyramid of orange colored flowers, not unfrequently thirty or forty in number; rare. (Florula Bostoniensis.)

Sabbatia chloroides. — One of our handsomest native plants.

Utricularia cornuta (Horned Bladderwort). — Found in wet ground.

In the collection of Mrs. Horner, the following are worthy of special mention:

Asclepias purpurascens (Dark Flowered Silk Weed).

" *tuberosa* (Butterfly Weed).

Calla palustris (Northern Calla).

Cypripedium acaule.

Leucanthemum tubuliflorum.

Lythrum Salicaria (Spiked Loosestrife.)

Magnolia glauca (Small Magnolia).

Potentilla tridentata (Mountain Potentilla).

Vaccinum Vitis-Idœa (Cow Berry).

In the collection of July 10th, were the following plants, particularlarly injurious in cultivated or grazing lands, only one of which is indigenous in this vicinity, though all are found growing wild:

Cirsium arvense (Canada Thistle).

Daucus Carota (Wild Carrot).

Erigeron strigosum (Hairy Erigeron).

Genista tinctoria (Dyer's Weed).

Hypericum perforatum (Common St. John's Wort).

Leucanthemum vulgare (White Weed).

Linaria vulgaris (Toad Flax).

Polygonum Persicaria (Spotted Polygonum).

Ranunculus acris (Fall Crowfoot).

Raphanus Raphanistrum (Wild Radish).

Rudbeckia hirta.

Rumex Acetosella (Sheep's Sorrel).

In addition to the above, on the 6th of April, Mrs. Horner showed a very fine collection of Cryptogamic and other native plants.

April 2d, we had from George E. Davenport *Trillium grandiflorum* and *Hepatica triloba*, grown in a window; also *Cypripedium parviflorum;* and November 6th, *Botrychium ternatum*, from California, the typical form of the species, and a good specimen of *Darlingtonia Californica;* and at different times through the season several small collections of choice native plants and flowers.

From Minot Pratt, *Betula papyracea* var. *minor*, found in Concord, Mass.

April 17th, John Robinson exhibited the following named collection, several of which had been forced in the house:

Alnus serrulata.
Cassandra calyculata.
Ceratophyllum demersum.
Comptonia asplenifolia.
Draba verna.
Kalmia latifolia.
Laurus Benzoin.
Salix (two species).
Trillium grandiflorum (in bud).
Ulmus Americana.
Utricularia, sp.
Aspidium spinulosum.
" *acrostichoides.*
" *marginale.*
Polypodium vulgare.

August 28th, Mr. Robinson brought *Pinus resinosa* (Red Pine), and September 4th, *Albies nigra* (Black Spruce), both from natural groves in Essex County and scarce in this region.

Double Zinnias, — the best that have been shown for several seasons, were on exhibition September 11th. The flowers were all large, and in a very fine variety of color. George Craft, C. M. Atkinson, J. B. Moore, Hovey & Co., and George N. Noyes, were the exhibitors.

Cut Flowers. — For the best collections of fifty named varieties of Greenhouse Flowers, James Comley, Hovey & Co., C. M. Atkinson, and James McTear have been the competitors, and for the fifty named varieties of annuals and perennials, C. M. Atkinson, James O'Brien, and James McTear. The competition for these premiums has not met the expectation of the Committee. The reason assigned by some is that the prize is not liberal enough for the amount of labor required to put up and name correctly fifty varieties of flowers. We hope that in the future there may be a good competition, for certainly collections of fifty named varieties of flowers, exhibited at our weekly shows, cannot fail of being very instructive as well as interesting to those who wish to become familiar with the names of plants and flowers.

Cut Flowers (150 bottles). At nearly all of the weekly exhibitions the general displays of cut flowers, although as a whole not equal to some seasons, have nevertheless been an attractive feature. James Comley, W. K. Wood, and James O'Brien, have been the most constant contributors to this department, James McTear, J. S. Richards, and A. McLaren having sent occasional contributions. It is due to Mr. Comley to make especial mention of the handsome stands filled by him; they have always been arranged with the choicest flowers and in the neatest manner —

indeed, no better displays of cut flowers have ever been made. We have also been glad to welcome to this department W. K. Wood, who has been the second largest contributor, and has labored untiringly to do his part well. The names of the other contributors, who are well known to you all, are a sufficient guarantee of the quality of their productions.

At the annual exhibition, the display, although good, was not up to its usual standard, a hard frost and some very cold nights previous to the time of the exhibition, having destroyed the flowers in many places.

Greenhouse Plants. — March 13th, Hovey & Co. exhibited the six following named varieties in bloom : *Phaius grandifolius*, Azalea Princess Mary of Cambridge, *Franciscea calycina*, *F. confertifolia*, *Imatophyllum miniatum*, and *Ixora coccinea*. June 28th, two good collections were exhibited by William Gray, Jr., and James Comley, each containing well-grown, handsome plants, of fine species and varieties. While those from Mr. Gray were the largest plants, in Mr. Comley's collection were many new and rare varieties.

At the Annual Exhibition, Edward Butler and Hovey & Co., exhibited very fine collections. The plants were all well grown, clean, and handsome, and gave good evidence that they had been cared for by skilful hands. Mr. Butler's collection contained the following fine specimens :

Alocasia zebrina.
Beaucarnea recurvata.
Croton elegans.
" *Veitchii.*
Cycas revoluta.
Dracœna cannœfolia.
Dracœna ferrea.
" *stricta.*
Eurya latifolia variegata.
Maranta princeps.
Pandanus graminifolius.
Strelitzia augusta.

The Committee were unanimous in their opinion that the twelve plants just named were as good a collection in every respect as has ever been exhibited.

Hovey & Co. have always contributed the choicest plants from their extensive collection; the plants shown by them were fine specimens of

Agave medio-picta.
Chamœrops excelsa.
Croton interruptum.
" *longifolium.*
Cycas revoluta.
Dion edule.
Dracœna Draco.
Maranta zebrina.
Phormium tenax Veitchii var.
Richardia pacifica.
Yucca quadricolor.

Stove and Greenhouse Flowering Plants. — The only competitor was E. S. Rand, Jr., who exhibited on the 28th of June the following varieties of well grown plants: *Brassia verrucosa*, *Cattleya Amethystina*, *Dendrobium Devonianum*, *Aerides Lobbii*, *Lælia purpurata*, and *Gesnera tubiflora*.

Specimen Plants. — June 28th, James Comley exhibited a superb specimen of *Dracœna Shepherdii*, which is one of the finest in cultivation.

At the Annual Exhibition, Edward Butler exhibited a magnificent specimen plant of *Cycas circinalis*, a native of the East Indies, and one of the finest of the genus, attaining a height of from ten to twelve feet. The plant shown was furnished with a noble head of fronds, of a dark shining green above and of a paler color beneath.

From Hovey & Co., came a beautiful specimen of *Cocos Weddelliana*, the most elegant species of this genus.' When not more than four feet in height, young plants of it have often from twelve to twenty graceful fronds, forming a plume of the most beautiful description.

Specimen Flowering Plants. — Edward S. Rand, Jr., exhibited a very pretty plant of *Tapeinotes Caroliniæ*, which was fully described in the Transactions for 1874, Part II, p. 103.

Variegated Leaved Plants were shown by James Comley and Hovey & Co., and, although not large, were very fine, distinct specimens. The varieties from Mr. Comley were the following:

Croton Weismanni. — "One of our most distinct and best introductions of late years. It is a plant of very striking character, and the better to convey a correct idea of its beauty, we transcribe the report given in the *Gardeners' Chronicle*, of 1868, p. 659, when this splendid plant was first exhibited: —

'Foremost amongst new ornamental foliaged plants was *Croton Weismanni*, from Messrs. Veitch; a glorious species, with a habit something like that of a *Dracœna*, and long narrow leaves, striped and mottled with gold of the brightest possible hue. This is indeed an acquisition.'

The plant is of very graceful habit, and of free growth. The leaves attain a length of from ten to twelve inches, and a width of three-quarters of an inch. They are very acute at the apex, the upper surface dark shining green, with gold blotches, the midrib

and margins golden yellow, under surface similar, but paler green."

Croton interruptum. — Foliage bronzy green, centre rib scarlet, shading to a rich golden hue, pendant and gracefully undulated; a superb plant.

Pandanus Veitchii.—"This magnificent Pandanus was discovered by the late Mr. J. G. Veitch during his journey through the South Sea Islands, from whence he brought so many beautiful and interesting plants. The leaves are slightly serrated, of a light green color, beautifully striped with broad bands and lines of pure white. They average two feet in length by three inches in width, growing erect from the stem, but towards the end gracefully curving, thus giving the plant a most elegant appearance, and showing itself to be perfectly distinct in habit as well as in coloring."

Maranta Makoyana. — Foliage of a dark green, with traverse markings of a sparkling, golden, transparent coloring. One of the best *Marantas* ever exhibited.

Dracœna Mooreana. — Foliage glossy bronze, footstalk and midrib bright crimson; one of the very best.

Dracœna Shepherdii.

From Hovey & Co., *Phormium atropurpureum* (new).

Dracœna Hendersoni.

Pandanus Veitchii,—described in the first named collection.

Phormium tenax variegatum. — A highly ornamental plant; the leaves three feet long and two inches wide, of a light, glaucous green, with broad, clear white stripes throughout the entire length.

Dracœna amabilis.

Croton Weismanni,—also described in the first named collection.

Specimen Variegated Leaved Plant. — Hovey & Co. exhibited a small plant of *Ficus Parcellii* (new), and James Comley, *Abutilon Sellowianum marmoratum.*

Caladiums were shown by Hovey & Co. and James Comley; the plants were not large, but well grown. Some of the varieties are very showy, and are among the best of our fine foliaged ornamental plants. Those shown were fine and distinct, and among the best that have ever been on exhibition.

Ferns were exhibited by J. W. Merrill, James Comley, George Higginson, and Edward Butler. The collection of Mr. Merrill contained the following named splendid varieties:

Asplenium lucidum.—A native of New Zealand; a fine, large, free growing fern, of a beautiful pendulous habit; fronds of a shining green.

Asplenium marinum.

Cibotium Barometz.—A splendid evergreen species; a native of China.

Cibotium Schiedei.—A beautiful evergreen species from Mexico; an elegant fern.

Davallia Mooreana.—One of the most noble species in cultivation, producing gracefully curved fronds of a delicate pale green color; the large fronds are elegantly cut into numerous small, blunt segments, and are remarkable for the prominence with which the sori show in a dotted manner on the upper surface.

Diplazium Zeylanicum.—A distinct and handsome fern; an evergreen stove species from Ceylon.

Doryopteris nobilis.—As its name indicates it is a noble species, and a very desirable plant; a native of Brazil.

Gymnogramme Japonica.

" *Peruviana.*

" *spectabilis.*

" *trifoliata.*

Lonchitis pubescens.

Lygodium dichotomum.

" *scandens.*

Nephrolepis davallioides.—A splendid fern; the most beautiful species of the genus, and one that should be in every collection. The graceful habit of its growth, and the handsome appearance of its fronds render it a species of no ordinary merit.

Polypodium cambricum.

" *cuspidatum.*

" *musæfolium.*

Filmy Ferns.—A writer in the Gardeners' Magazine goes into raptures over these beautiful ferns, and we can hardly say that his descriptions are exaggerated. We give three of them, as follows:

" *Todea superba.*—It is without a question the finest filmy fern in cultivation, surpassing alike the powers of pen or pencil to do justice to its sumptuous beauty. The fern-grower who has not seen it is clearly shut out of the very world it is his (or her) hope to win. With such a gorgeous plant before me, I feel it prudent to rest awhile, lest I should weary the reader with a superabundance of the adjectives of eulogy.

Trichomanes anceps.—A splendid species with large triangular fronds, which are divided into feathery pinnæ with linear and

angular segments. The color is deep green, and the texture smooth and rigid.

Trichomanes radicans.—A well-known British fern, admirably adapted for a close case. It is extremely rich and leafy, with large deltoid fronds, which, when grown vigorously, acquire a somewhat crispy appearance. It must be grown in a constantly humid atmosphere, but the temperature of a cool fern house is sufficient for it. As the barren fronds live eight or even ten years, and the fertile fronds three or four years, a large dense specimen, with not a shrivelled frond upon it, carries in its appearance evidence of good cultivation."

These three species were exhibited by Mr. Merrill.

James Comley exhibited the following named varieties:

Adiantum amabile.—A very graceful and beautiful species from Peru.

Adiantum cuneatum.—The commonest of all the *Adiantums*, and one of the most useful.

Adiantum Farleyense.—Already well known as one of the handsomest ferns for decorative purposes.

Adiantum Sanctæ Catherinæ.—A fine exhibition plant.

Adiantum scutum.

Adiantum tenerum.—A strong growing species, which, when well cultivated, forms fine specimen plants.

Adiantum trapeziforme.—A noble fern from the West Indies, a splendid exhibition plant.

Cibotium princeps.

Pteris argyræa.—A handsome ornamental species from the East Indies.

Pteris cretica albo-lineata.—A handsome evergreen fern from Japan.

Pteris tricolor.—A well-known beautiful variegated species from the East Indies.

From George Higginson we had *Pteris argyræa*, *P. tricolor*, *P. cretica albo-lineata*, *Adiantum trapeziforme*, *A. macrophyllum*, a very handsome distinct species from the West Indies; and *Lygodium Japonicum*, a very pretty climbing fern from Japan.

From Edward Butler, *Adiantum cuneatum*, *A. trapeziforme*, *Lygodium microphyllum*, *Dicksonia squarrosa*, an elegant fern, deserving a place in every collection—a native of New Zealand; *Pteris umbrosa*, a fine ornamental plant, of a vivid green—a native of Australia; and *Davallia lonchitidea.*

From William Edgar the following fine plants of British Ferns:

Athyrium corymbiferum.	*Athyrium Pritchardii.*
" *Craigii.*	" *tortile.*
" *Frizelliæ.*	" *Victoriæ.*
" *pinnatum multifidum.*	*Lastrea cristata.*
" *plumosum.*	

Tree Ferns.—A very handsome pair, consisting of *Dicksonia antarctica* and *Alsophila australis*, were exhibited by J. Warren Merrill. The former is a magnificent fern from Australia, and in its native country attains a height of thirty feet or more, and bears at its summit a magnificent crown of dark green, lance-shaped fronds, from six to twenty feet long, beautifully arched, and becoming pendulous with age. The crown itself is frequently ten or twelve feet across, and is evergreen.

The *Alsophila australis* is also a magnificent fern, and one of the finest of the genus, rising on a stem twenty-five to thirty feet high, the fronds being from five to ten feet in length; it is a native of South Australia.

James Comley also sent a good plant of *Alsophila australis.*

Dracænas.—The splendid specimens shown by H. H. Hunnewell and James Comley, are worthy of more than a mere mention that such plants were on exhibition, there being few, if any plants shown, that surpassed them for beauty and usefulness. They are invaluable for the decoration of indoor apartments, the conservatory, or garden, their habit being peculiarly elegant, combined with rich coloured leafage. The plants exhibited were not bare stems with a few leaves on the top, but were splendid specimens, well furnished with luxuriant foliage. The varieties shown by Mr. Hunnewell were *Mooreana*, *magnifica*, *amabilis*, *porphyrophylla*, *regina*, and *Youngii*.

Palms.—The only pair on exhibition were from Hovey & Co., who showed very good specimens of *Geonoma pumila* and *Pritchardia* sp.; the former a desirable species, and highly recommended for dinner table decoration; a native of tropical America. *Pritchardia* is a small genus of palms, which are very ornamental.

Agaves.—Of late years considerable attention has been paid to this class of plants, so useful and ornamental, whether for the garden, conservatory, or hall. Two very fine collections were

shown by E. S. Rand, Jr., and Hovey & Co. The following named varieties were from Mr. Rand:

Agave Americana medio-picta.
" " *Mexicana.*
" " *Milleri.*
" " *stricta.*
" " *variegata.*
" *applanata.*
" *coccinea.*
Agave filifera.
" *micracantha.*
" *Mexicana.*
" *Sisalana.*
" *univittata.*
" *Verschaffeltii.*
" *xylinacantha.*

From Hovey & Co., *Agave Americana medio-picta*, *A. coccinea*, *A. dealbata*, *A. Ghiesbreghtii*, *A. Xalapensis*, and *A. xylinacantha*.

Cacti.—This interesting family of plants has of late received considerable attention, being not only an interesting family, but valuable for cultivation in rooms, not requiring so much care as many other plants. Two excellent collections, selected with great care, were exhibited, one by John C. Hovey, who showed the following named varieties:

Cereus Chiloensis.
" *marginatus.*
" *martini.*
" *viridiflorus.*
Echinocactus Monvillii.
Echinopsis Eyresii.
" *turbinata.*
" *Zuccariniana.*
Mamillaria applanata.
" *auriceps.*
" *depressa.*
" *elegans.*
" *gracilis.*
Mamillaria magnimmama.
" *Nebraskaensis.*
" *nivea longispina.*
" *pusilla.*
" *quadrispina.*
" *spinosissima.*
Opuntia Californica.
" *crassa.*
" *cylindrica cristata.*
" *ferox.*
" *microdasys.*
" *pes corvi.*

The plants were all neatly labelled, and were an exceedingly interesting collection. Hovey & Co. also exhibited a good collection, but as no list was handed the committee the names are unavoidably omitted.

Succulents (other than Agaves and Cacti), were exhibited by John C. Hovey, and Hovey & Co. Those from J. C. Hovey were selected with great care, and contained the following species and varieties:

Aloe colubrina.
" *ferox.*
" *grandidentata.*
" *mitræformis.*
" *obscura.*
" *saponaria.*
" *variegata.*
Cotyledon orbiculare.
Echeveria agavoides.
" *farinosa.*
" *latifolia compacta.*
" *metallica.*
" *scaphylla.*
Gasteria brachyphylla.
Greenovia fallax.
Haworthia fasciata.
" *pumila.*
" *radula.*
" *retusa.*
Hechtea regalis.
Mesembryanthemum felinum.
Sempervivum arboreum variegatum.
" *Canariense.*
" *urbicum compactum.*
Yucca quadricolor.

For many years most of the beautiful plants of this class have been in obscurity, and as fashion has its changes in almost everything, so it has in plants; and now we find many of the succulents among the most popular and useful plants for bedding purposes, and for decorating the conservatory, greenhouse, or window. This collection was the best that has been exhibited. Hovey & Co. also exhibited a choice collection, neatly labelled.

Best New Pot Plant. — H. H. Hunnewell, exhibited a splendid specimen of *Dracæna Baptistii*, which is one of the best new pot plants ever shown.

Hanging Baskets were shown by James McTear, John Vose, and Walsh Brothers, all well filled with good plants.

Dahlias have been exhibited by Macy Randall, S. G. Stone, Hovey & Co., and George Everett. Each of these collections contained many beautiful flowers, which for brilliancy and variety of color could hardly be excelled. When we are able to procure such fine varieties, the dahlia merits a situation in every garden.

Bouquets. — Hovey & Co., James Comley, James McTear, James O'Brien, James Nugent, Mrs. S. Joyce, and Mrs. E. M. Gill, have been the contributors, and the mention of these names is a sufficient assurance of the merit of the productions. The hand bouquets have been particularly noticeable; at no time have there been shown any other than first class bouquets—indeed it has more than once been very difficult to decide whose was best.

Baskets of Flowers have been exhibited by Mrs. A. D. Wood, Mrs. S. Joyce, Mrs. E. M. Gill, and Miss S. W. Story.

As in past seasons, the productions of these ladies have been highly appreciated by the large number of visitors.

Table Designs. — Very neatly arranged and pretty designs have been shown at most of the exhibitions through the season. While we are not able to note any marked improvement in this department, it is only justice to the contributors who have done their work so faithfully, to say that their efforts have been highly appreciated by all. Mrs. A. D. Wood, Mrs. S. Joyce, Mrs. E. M. Gill, and James O'Brien have been the chief contributors.

Evergreen Trees and Shrubs. — A very fine collection of twenty varieties of choice Japanese evergreens, many of them new and rare, was shown by William Gray, Jr., on the 13th of March, the following being particularly noticeable:

Pinus Massoniana var.
Retinispora ericoides.
" " *var.*
" *filiformis pend. fol. var.*
Retinispora leptoclada.
" *lycopodioides.*
Retinispora obtusa aurea.
" *pisifera.*
" *plumosa aurea.*
" *squarrosa.*
Sciadopitys verticillata.
Thuja pendula.
Thujopsis dolabrata var.

Chrysanthemums. — Plants in pots were shown by George Higginson, James Comley, and Marshall P. Wilder. Those from Mr. Higginson were very handsome specimens, well flowered and furnished with vigorous foliage. The handsome standards from the same gentleman were especially worthy of notice. The stems were four feet high with very finely shaped heads. The Pompon varieties were Cedo Nulli, Damietta, General Canrobert, Bob, Rosabella, Niobe. Large flowering varieties, — Duke of Edinburgh, Dr. Sharp, Rifleman, Novelty, Jardin des Plantes, Empress of India.

Marshall P. Wilder exhibited a plant of George Peabody, a white variety, showing, what is rare in the Chrysanthemum, a curious sport, some of the flowers being entirely yellow.

Of New and Rare Plants James Comley has exhibited

Abutilon Sellowianum marmoratum.
Alocasia illustris.
Anthurium crystallinum.
Asplenium longissimum.
Bonapartea Landenii.
Dioscorea illustrata.
Doryanthes Palmeri.
Dracæna amabilis.
" *Baptistii.*

Dracæna Hendersoni.
" *Shepherdii.*
Echeveria Abyssinica.
Ficus Parcellii.
Maranta Seemanni.
Pandanus Veitchii.
Poinsettia pulcherrima rosea-carminata.

And the new *Lobelia pumila grandiflora flore pleno;* flowers large and very double, of a beautiful light blue color; a fine acquisition. Also, Pelargonium Queen Victoria, a very attractive variety, with large flowers, the color being very rich; the petals are a brilliant carmine, beautifully fringed, with a sharply defined pure white margin. For decorative purposes it will undoubtedly prove very valuable.

From Hovey & Co. came the new variegated Pelargonium Happy Thought; the plant was small, but the variety is highly spoken of in the journals and catalogues; *Anthurium crystallinum*, spoken of as a perfect gem; *Ficus Bonneti*, a very fine plant for subtropical gardening; *Paullinia thalictrifolia*, and *Dahlia viridiflora* (Green flowered).

From James McTear, Pelargoniums Striata and Distinction.

From W. H. Spooner, *Cineraria hybrida flore pleno.*

From Waldo O. Ross, *Mammillaria Neumanniana*, *M. stella aurata*, *Echinopsis Eyresii*, and *Stapelia picta.*

From John C. Hovey, *Sempervivum tomentosum*, *S. arenarium*, and *S. Amaliæ.*

From Denys Zirngiebel, Daisy Queen Victoria.

From William Gray, Jr., a very fine specimen plant of *Cypripedium insigne*, with fifty flowers and buds; the best grown plant of the kind ever exhibited here.

Miscellaneous Plants have been shown by James Comley at various times through the season, as follows: *Eriostemon myoporoides* and *E. intermedius* — beautiful greenhouse evergreen shrubs from New Holland; *Epacris vestita carnea*, very handsome; *Scutellaria carnea; Rhododendron Veitchianum*, a magnificent species from Moulmain; *Anthurium Scherzerianum; Hydrangea Otaksa; Clematis mutabilis grandiflora*, a single flower, very large, measuring ten inches across; Fuchsia Oracle; *Sempervivum Californicum*, grown in a pan. The beautiful tuberous rooted Begonias, which for several years past have attracted so much attention in Europe, have just began to receive notice here, and on several occasions Mr. Comley has exhibited some very hand-

some plants. The flowers are very bright, all shades of scarlet, from yellow to carmine, and from pink to crimson. The plants are said by the English journals to be very easy of cultivation, the treatment recommended being that they should be allowed to dry off, have the soil shaken from the roots, and then be put away to winter like dahlias. In "The Garden" for 1874, it is said that Messrs. Veitch & Sons have many fine varieties planted out on their rockery, a position in which they grow vigorously; one plant has stood out for the last three winters, and is now a great mass a yard through and about two feet high, and as it bears a profusion of bright scarlet flowers it is a very attractive object. We hardly think they would stand the severity of our winters, but Mr. W. H. Spooner informed us that he had planted some dry bulbs out in a bed with other plants, with very satisfactory results. We hope to see more of these beautiful plants at our exhibitions another season.

At the Annual Exhibition Mr. Comley showed a very fine collection of plants, consisting of choice specimens of *Dracœnas*, *Crotons*, *Marantas*, *Aralia Veitchii*, *Coprosma Bauereana variegata*, *Hibiscus Cooperi*, *Sambucus aureo-variegata*, *Pavetta Borbonica*, Ferns, Tree Ferns and *Caladiums*. November 20th he exhibited *Cupania filicifolia*, a handsome stove evergreen tree.

From J. H. Woodford we had Amaryllis Gracious Maid (very fine) and a superb lot from the Mauritius, which were mostly varieties of *A. vittata;* the flowers were very large and fine; also a very fine plant of *Trichinium Manglesii*.

Edward S. Rand, Jr., has shown from his choice collection, *Gelsemium nitidum* (Southern Jasmine), *Tacsonia Van Volxemi*, *Thunbergia laurifolia*, Canna Anatole Levallois, a very fine new dwarf variety; *Nymphœa cœrulea*, the beautiful blue water lily from Egypt, and at the Annual Exhibition *Nymphœa Devoniensis*. Also, a fine collection of *Agaves* and other choice greenhouse plants.

Francis Parkman sent *Aquilegia olympica*, *A. leptoceras hybrida*, *A. glandulosa jucunda*, *A. cœrulea*, *A. caryophlloides*, and *A. chrysantha*. The Aquilegia is among the best of our herbaceous plants, and this was the best collection ever exhibited. Mr. Parkman also sent *Anthericum liliago*, *Diervilla multiflora*, a desirable plant; *Hemerocallis Thunbergiana*, one of an ornamental genus of easy culture; *Muscari comosum*, *Spiræa palmata*, new and very fine;

Thalictrum aquilegifolium, a handsome ornamental plant for a border or shrubbery; *Viburnum plicatum*, a very fine species; *Weigelia hortensis nivea; Xerophyllum asphodeloides*, very handsome when in flower; also the following superb Clematis: Alexandra, J. G. Veitch, Miss Bateman, Prince of Wales, Star of India, Thomas Moore, *Tunbridgensis*, *Rubella*, and *Viticella rubra;* also a hybrid *Lilium*, a cross between *L. auratum* and *L. lancifolium*, a very fine, handsome colored flower, extra large and good. The herbaceous flowers shown by Mr. Parkman have always been very fine, and have added much to the interest of the exhibitions. We hope many more will take up the cultivation of this highly useful and too much neglected class of plants.

From John B. Moore we had *Lachenalia luteola*, a very fine plant with forty-five spikes of flower.

From H. H. Hunnewell, *Tacsonia ignea*, *Clematis indivisa*, a magnificent cool greenhouse climber, and Clematis Lord Londesboro, grown in a pot; this was the best specimen Clematis ever shown in a pot, and contained hundreds of bright flowers; it was an object of great beauty.

October 16th, Mr. Hunnewell, sent two flower spikes of *Agave Americana*. The plant which produced them was much injured by frost in the fall of 1874, and was thrown aside as of no value, but when it was found to show a disposition to flower, attention was given it which resulted in producing these two spikes. Though not as large as they would have been on a more vigorous plant, or as if there had been but one on this, the fact that they were the first of this species ever exhibited here, combined with the interest felt in it from the popular idea that it flowers only when a century old, attracted a large number of visitors to the Hall. Mr. Harris, Mr. Hunnewell's gardener, is of the opinion that any plant, by subjecting it to a degree of frost sufficient to check its growth without injuring the foliage, and then placing in strong bottom heat, could be forced to develop a flower spike.

From C. M. Atkinson, *Amaryllis princeps*, *Begonia glaucophylla scandens*, *Bletia Tankervilleæ*, *Chorizema Lawrenciana*, *Crassula corymbulosa*, *Erica arborea*, *E. rubra calyx*, *Franciscea calycina major*, *Kennedya monophylla*, and *Tacsonia princeps*. The plants shown by Mr. Atkinson are always in excellent condition, and give the best evidence that they have been trained by skilful hands. Those exhibited the past season have been objects fit to adorn any conservatory or exhibition table.

From William Edgar, gardener to William Claflin, a very fine specimen plant of *Statice Holfordii*, with twenty spikes of flowers, the best specimen ever shown; Fuchsia Sunray, one of the most beautiful varieties ever introduced; *Allamanda neriifolia*, a very handsome, free flowering plant.

From Joseph Clark, *Bougainvillea* sp., *Amaryllis Graviana*, *A. crocea grandiflora*, Clematis Lucie Lemoine and Gem, and a superb specimen of *Eucharis Amazonica*, with eighteen spikes of flowers and an average of seven flowers on a spike; the plant was well grown, the foliage superb, and it was the best specimen ever exhibited.

From James O'Brien, Neapolitan and Marie Louise violets.

From Francis Putnam, seedling *Amaryllis*, mostly varieties of *vittata*, some of the flowers being very fine.

From F. W. Andrews, good plants of tuberous rooted Begonias, and at the Annual Exhibition a collection of greenhouse plants, which, although small, were in good condition and will make fine specimens.

From Daniel Duffy, seventeen pots of *Amaryllis Belladonna*, which were very finely flowered.

From A. McLaren, *Campanula Medium calycanthema azurea*, and *C. Medium calycanthema alba*.

From A. P. Calder and J. C. Chaffin, very fine trusses of bloom of *Hydrangea paniculata grandiflora*, the best hardy shrub of recent introduction.

From Robert Manning, fruit of *Actæa spicata* var. *rubra*, and *Celastrus scandens*, both cultivated.

From W. C. Strong, at the Annual Exhibition, a collection of Hardy Foliage Plants of the following named varieties:

Alder, Cut Leaved.
Althæa variegata.
Amygdalus purpurea.
Ash, Aucuba Leaved.
Ash, Golden.
Arbor Vitæ, globosa.
" " Golden.
" " New Golden.
" " *Hoveyi.*
" " *occidentalis variegata.*
" " Siberian.
" " Tom Thumb.
Berberis purpurea.
Birch, Cut Leaved.
" New Purple.
Elder, Golden.
Fagus laciniata.
Forsythia viridissima.
Lonicera aurea reticulata.
Maple, Macafalie's.
Retinispora pisifera aurea.
Spiræa aurea.
" *Thunbergii.*
" *Ulmaria picta.*
Tamarix Gallica.
Weigelia nana variegata.

From James McTear, *Kalosanthes coccinea*, one of a very handsome genus of succulent plants; the flowers are very beautiful, and it should be extensively cultivated; also a very fine pan of *Nertera depressa*, the beautiful Bead Plant of Australia.

From Jackson Dawson, *Desmodium pendulæflorum*, a very handsome drooping papilionaceous flower.

From J. Warren Merrill, *Rochea falcata*, a very handsome greenhouse evergreen succulent, from the Cape of Good Hope.

From Walsh Brothers, at the Annual Exhibition, a good collection of greenhouse and stove plants; among them were specimens of *Alocasia macrorhiza*, *Hibiscus Cooperi*, *Dracœnas*, *Marantas*, *Caladiums*, *Crotons*, Ferns, etc.; also good hanging baskets filled with choice plants.

From Hovey & Co., a very fine specimen plant of *Epiphyllum punctatum violaceum*.

In closing our report we would call the attention of exhibitors to the changes in the Schedule for the coming year, and would also urge upon them the necessity of handing to the Committee lists of their contributions, it being impossible to make a detailed report of the exhibitions without such lists.

All of which is respectfully submitted in behalf of the Committee.

JOHN G. BARKER, Chairman.

PRIZES AND GRATUITIES AWARDED FOR PLANTS AND FLOWERS.

January 2.

Gratuities:—

To John B. Moore, for Cut Flowers,	$1 00
James Comley, " " "	1 00
Mrs. S. Joyce, for Dish of Flowers,	1 00

January 9.

Gratuities:—

To James Comley, for Bouquet,	2 00
James Cartwright, for *Lycaste Skinneri*,	2 00
E. S. Rand, Jr., for *Phalœnopsis amabilis*,	3 00
Mrs. E. M. Gill, for Basket of Flowers,	2 00
Mrs. S. Joyce, for Dish of Flowers,	2 00

January 16.

Gratuities:—

To Mrs. E. M. Gill, for Dish of Flowers,	1 00
Mrs. S. Joyce, " " "	2 00
Mrs. A. D. Wood, for Design,	2 00
James Comley, for Cut Flowers,	2 00
John B. Moore, " " "	1 00
Miss Sarah W. Story, for Cut Flowers,	1 00

January 23.

Gratuities:—

To James Comley, for Azaleas,	5 00
Mrs. E. M. Gill, for Cut Flowers,	1 00
John B. Moore, for Plants in pots,	3 00
Mrs. S. Joyce, for Dish of Flowers,	2 00
Mrs. A. D. Wood, for Table Design,	2 00

January 30.

Gratuities:—

To Edward S. Rand, Jr., for *Cœlogyne cristata*,	$3 00
John B. Moore, for Azaleas,	2 00
Mrs. S. Joyce, for Dish of Flowers,	2 00
Mrs. E. M. Gill, for " "	2 00
Miss S. W. Story, for Vase of Flowers,	2 00
James O'Brien, for Cyclamens,	3 00
James Comley, for Cut Flowers,	2 00
" " for *Eupatorium riparium*,	2 00

February 6.

Gratuities:—

To John B. Moore, for Azaleas (cut flowers),	2 00
James Comley, for Cut Flowers,	2 00
" " " Plants in pots,	3 00
Mrs. C. N. S. Horner, for Native Plants,	3 00
Miss S. W. Story, for *Sarracenia flava*,	1 00
" " " " Vase of Flowers,	2 00
Mrs. S. Joyce, for Basket of Flowers,	2 00
Mrs. E. M. Gill, for " "	2 00
Mrs. A. D. Wood, for Table Design,	3 00

February 13.

Cyclamens.—For the best six, in pots, to James O'Brien,	6 00
For the second best, to C. B. Gardiner,	5 00
Table Design.—For the best, other than a Basket of Flowers, to Mrs. S. Joyce,	5 00
For the second best, to Mrs. A. D. Wood,	4 00

Gratuities:—

To James Comley, for Cut Flowers,	3 00
" " " Plants in pots,	3 00
Mrs. E. M. Gill, for Cut Flowers,	2 00
J. B. Moore, " " "	1 00
J. H. Woodford, " " "	2 00
Mrs. S. Joyce, for Amaryllis,	1 00
Norton Brothers, for Roses,	1 00
James O'Brien, for Cyclamens,	5 00
" " " Violets,	1 00

FEBRUARY 20.

Gratuities:—

To Marshall P. Wilder, for Camellias,	$1 00
Hovey & Co., for Camellias,	2 00
William Gray, Jr., for Azaleas,	10 00
Norton Brothers, for Roses,	1 00
" " " Forced Lilacs,	3 00
James O'Brien, for Cyclamens,	2 00
J. B. Moore, for Plants in pots,	5 00
James Comley, for Cut Flowers,	3 00
Mrs. E. M. Gill, for Dish of Flowers,	2 00
Mrs. S. Joyce, " " "	2 00
Mrs. A. D. Wood, for Table Design,	2 00

FEBRUARY 27.

Gratuities:—

To James Cartwright, for *Lycaste Skinneri*,	2 00
James Comley, for Roses in pots,	8 00
" " " Cut Flowers,	3 00
E. S. Rand, Jr., " " "	1 00
Mrs. E. M. Gill, " " "	2 00
Miss S. W. Story, for " "	2 00
James O'Brien, for Cyclamens,	2 00
Mrs. A. D. Wood, for Dish and Vase of Flowers,	3 00
Mrs. S. Joyce, for Dish of Flowers,	2 00
Francis Putnam, for Seedling Amaryllis,	2 00
Hovey & Co., for Camellias,	1 00
A. P. Calder, for Lilacs,	1 00

MARCH 6.

Gratuities:—

To Mrs. A. D. Wood, for Dish of Flowers,	2 00
Mrs. S. Joyce, " " "	2 00
I. E. Coburn, for Vase of Roses,	1 00
James Comley, for Hybrid Perpetual Roses,	2 00
" " " Cut Flowers,	2 00
John B. Moore, " " "	2 00
Mrs. E. M. Gill, " " "	1 00
James Comley, for Plants in pots,	2 00
Francis Putnam, for Amaryllis,	1 00
Hovey & Co., for Camellias,	1 00
James O'Brien, for Cyclamens,	5 00

March 13.

GREENHOUSE PLANTS.—For the best six, in bloom, to Hovey & Co., ... $20 00

CAMELLIAS.—For the best display of named varieties, cut flowers, not less than twenty blooms, to Hovey & Co., ... 6 00

ORCHIDS — WINTER BLOOMING.—For the best three varieties, to Edward S. Rand, Jr., ... 10 00

For the second best, to Edward S. Rand, Jr., . . 8 00

PARLOR BOUQUETS.—For the best pair, to Hovey & Co., 5 00

For the second best, to James Comley, . . . 4 00

Gratuities:—

To James Comley, for Roses in pots, ... 6 00

" " " Cut Flowers, ... 5 00

John B. Moore, for Plants and Flowers, . . . 3 00

James Cartwright, for *Lycaste Skinneri*, . . . 2 00

Mrs. S. Joyce, for Dish of Flowers, . . . 2 00

Mrs. A. D. Wood, " " . . . 2 00

Mrs. E. M. Gill, " " . . . 2 00

Edward S. Rand, Jr., for Cut Flowers, . . . 1 00

Denys Zirngiebel, for Daisy Queen Victoria, . . 1 00

William Gray, Jr., for Azaleas, ... 5 00

Marshall P. Wilder, " " 2 00

Hovey & Co., for Camellias, ... 5 00

" " " Basket of Camellias, . . . 3 00

" " " Cut Flowers, ... 2 00

Francis Putnam, for Amaryllis, ... 1 00

March 20.

Gratuities:—

To James Comley, for Hybrid Perpetual Roses, . . 5 00

Francis Putnam, for Amaryllis, ... 1 00

Mrs. A. D. Wood, for Dish of Flowers, . . . 1 00

Mrs. S. Joyce, " " " . . . 1 00

Mrs. C. N. S. Horner, for Native Plants and Flowers, 1 00

Mrs. E. M. Gill, for Cut Flowers, ... 1 00

Edward S. Rand, Jr., for Cherokee Rose, . . . 1 00

Hovey & Co., for Vase of Roses, ... 1 00

C. M. Atkinson, for *Erica rubra calyx*, . . . 1 00

March 27.

Gratuities:—

To James Comley, for Plants and Flowers,	$5 00
C. M. Atkinson, for Plants in pots,	10 00
C. B. Gardiner, for Cyclamen,	2 00
J. B. Moore, for Azaleas,	3 00
A. McLaren, " "	2 00
Hovey & Co., for Camellias and Roses,	2 00
Mrs. E. M. Gill, for Dish of Flowers,	2 00
Mrs. S. Joyce, " " "	1 00

April 2.

Gratuities:—

To H. H. Hunnewell, for Azaleas and Rhododendrons,	6 00
George E. Davenport, for Native Plants,	1 00
Miss S. W. Story, for Cut Flowers,	2 00
James Comley, " " "	4 00
James McTear, " " "	3 00
J. B. Moore, " " "	2 00
Mrs. E. M. Gill, " " "	2 00
Hovey & Co., " " "	3 00
James Comley, for Plants in pots,	2 00
Joseph Tailby, for Giant Candytuft,	1 00
Mrs. S. Joyce, for Table Design,	2 00
A. McLaren, for Azaleas,	2 00
Hovey & Co., for Camellias,	3 00
Mrs. A. D. Wood, for Dish of Flowers,	2 00
Waldo O. Ross, for Plants in pots,	5 00
James Nugent, for Vase of Roses,	1 00

AZALEA EXHIBITION.

April 10.

Indian Azaleas.—For the best six named varieties, in pots, to Marshall P. Wilder,	$25 00
For the best six named varieties, in eight inch pots, to Hovey & Co.,	15 00
For the best single specimen, to Marshall P. Wilder,	10 00

HANGING BASKETS.—The plants to have been growing in them at least one month.—For the best specimen, to James McTear,	$5 00
For the second best, to Hovey & Co.,	4 00
BASKET OF FLOWERS.—For the best arranged, to Mrs. A. D. Wood,	4 00
For the second best, to Mrs. S. Joyce,	3 00

Gratuities:—

To Hovey & Co., for Cut Flowers,	5 00
James Comley, " " "	3 00
James McTear, " " "	1 00
James O'Brien, " " "	2 00
James Comley, for splendid Basket of Roses,	5 00
" " " Plants in pots,	5 00
James McTear, for specimen Azalea,	2 00
" " " Azaleas,	3 00
" " " Bouquets,	3 00
William Edgar, for *Statice Holfordii*,	5 00
J. H. Woodford, for Amaryllis,	2 00
Mrs. E. M. Gill, for Vases of Flowers,	2 00
E. S. Rand, Jr., for rare Orchids,	5 00
J. B. Moore, for Pansies,	1 00
Hovey & Co., for Plants in pots,	2 00

APRIL 17.

Gratuities:—

To James McTear, for Bouquets and Cut Flowers,	3 00
Mrs. S. Joyce, for Dish of Flowers,	2 00
E. S. Rand, Jr., for *Oncidium leucochilum*,	1 00
John Robinson, for Native Shrubs and Flowers,	2 00
H. H. Hunnewell, for Clematis Lord Londesboro,	5 00
Mrs. E. M. Gill, for Cut Flowers,	2 00
James Comley, " " "	1 00

APRIL 24.

Gratuities:—

To E. S. Rand, Jr., for Roses and Violets,	2 00
J. Tailby, for *Lilium auratum*,	2 00

To Mrs. S. Joyce, for Dish of Flowers,		$2 00
James Comley, for Plants and Flowers,		3 00
James McTear, for Bouquet and Cut Flowers,		2 00
C. L. Allen, for *Lilium longiflorum*,		2 00
J. B. Moore, for Cut Flowers,		2 00
Mrs. E. M. Gill, for Cut Flowers,		2 00
Miss S. W. Story, for Cut Flowers,		2 00
J. H. Woodford, for Amaryllis,		1 00
C. M. Atkinson, for Plants in pots,		3 00

MAY 1.

Gratuities:—

To Mrs. C. N. S. Horner, for Native Plants,		2 00
E. S. Rand, Jr., for Orchids,		3 00
Joseph Tailby, for Roses,		1 00
James Comley, for Plants in pots,		2 00
" " " fine White Stocks,		1 00
" " " Cut Flowers,		3 00
Mrs. S. Joyce, " " "		2 00
J. H. Woodford, for Cut Flowers,		2 00
Mrs. E. M. Gill, " " "		1 00
Miss S. W. Story, for Cut Flowers,		1 00
James McTear, for Azaleas,		3 00
Mrs. A. D. Wood, for Dish of Flowers,		2 00

MAY 8.

Gratuities:—

To E. S. Rand, Jr., for Orchids,		2 00
James McTear, for Bouquets and Cut Flowers,		2 00
J. H. Woodford, for Cut Flowers,		1 00
Miss S. W. Story, for Cut Flowers,		1 00
James Comley, " " "		3 00
Mrs. E. M. Gill, " " "		3 00
Mrs. A. D. Wood, for Vases of Flowers,		3 00
James Comley, for *Cereus flagelliformis*,		1 00
J. A. Foster, for Stocks,		1 00
Mrs. S. Joyce, for Dish of Flowers,		2 00

PELARGONIUM EXHIBITION.

May 15.

Pelargoniums.—For the best six named Zonale varieties, not variegated, to William Gray, Jr.,	$15 00
For the second best, to William Gray, Jr.,	10 00
For the best six named variegated Zonale varieties, to William Gray, Jr.,	15 00
For the second best, to William Gray, Jr.,	10 00
For the best six named Bronze varieties, to William Gray, Jr.,	15 00
For the second best, to Hovey & Co.,	10 00
For the best six named Double Zonale varieties, to Hovey & Co.,	15 00
For the second best, to William Gray, Jr.,	10 00
Spring Herbaceous Plants.—For the best display of named species and varieties, one bottle of each variety, to E. S. Rand, Jr.,	6 00
Table Design.—For the best, other than a Basket of Flowers, to Mrs. A. D. Wood,	4 00
For the second best, to Mrs. E. M. Gill,	3 00
Tulips.—For the best ten Flowers, to C. M. Atkinson,	5 00

Special Prizes for Pelargoniums, offered by William Gray, Jr.

For the best six named Zonale varieties, not variegated, to Hovey & Co.,	$25 00
For the best six Zonale varieties, variegated, to H. H. Hunnewell,	25 00
For the second best, to Hovey & Co.,	15 00
For the best specimen Zonale, not variegated, to Hovey & Co.,	10 00
For the best specimen Zonale, variegated, to Hovey & Co.,	10 00

Gratuities:—

To James Comley, for Cut Flowers,	3 00
Miss S. W. Story, for Cut Flowers,	3 00
Miss A. C. Wheeler, for Cut Flowers,	1 00
J. B. Moore, " " "	3 00

To Mrs. S. Joyce, for Cut Flowers, ... $1 00
E. S. Rand, Jr., " " " 2 00
Hovey & Co., " " " 1 00
" " for *Cattleya Mossiæ*, ... 2 00
" " for Azaleas, ... 2 00
" " for Collection of Plants, . . . 5 00
Miss A. C. Kenrick, for *Magnolia conspicua*, . . 1 00
J. A. Foster, for Stocks, ... 1 00
J. McTear, for Bouquets and Cut Flowers, . . 3 00
George E. Davenport, for *Cypripedium spectabile*, . 1 00
James Comley, for Plants in pots, ... 5 00
" " " specimen Plant, ... 3 00
" " " new Double Lobelia, . . . 2 00
H. H. Hunnewell, for choice Plants in pots, . . 6 00
James Nugent, for *Rhyncospermum jasminioides*, . 3 00
James McTear, for Pelargonium Distinction, . . 1 00
William Gray, Jr., for a fine collection of Zonale and Variegated Pelargoniums, ... 16 00
John C. Hovey, for new Sempervivums, . . . 2 00

MAY 22.

Gratuities: —

To J. H. Woodford, for Cut Flowers, . . . 2 00
J. B. Moore, " " " . . . 2 00
James Comley, " " " . . . 3 00
E. Shepherd, " " " . . . 1 00
H. H. Hunnewell, " choice collection of Azaleas, 10 00
Mrs. A. D. Wood, " Dish of Flowers, . . . 2 00
Mrs. E. M. Gill, " " " . . . 2 00
Mrs. S. Joyce, " " " . . 2 00
James McTear, " Pelargoniums, . . . 2 00
Mrs. C. N. S. Horner, for Native Plants and Flowers, 2 00

MAY 29.

Gratuities: —

To Francis Parkman for Aquilegias, ... 1 00
Miss A. C. Kenrick, for Magnolias, ... 1 00

JUNE 5.

PELARGONIUMS.—For the best six named show varieties, in pots, the second prize to J. B. Moore, . . 5 00

Tree Pæonies. — For the best six named varieties, to Marshall P. Wilder,	$5 00
Cut Flowers. — For the best display, filling 150 bottles, to James Comley,	6 00
For the second best, to James McTear,	5 00
Table Design. — For the best, other than a Basket of Flowers, to Mrs. A. D. Wood,	4 00
For the second best, to Mrs. S. Joyce,	3 00
Bouquets — For the best pair of Parlor Bouquets, to James McTear,	4 00
Hardy Shrubs —For the best display, to Miss S. W. Story,	5 00
For the second best, to James McTear,	5 00
Gratuities: —	
To E. S. Rand, Jr., for Hardy Azaleas,	1 00
" " " " Orchids,	5 00
Mrs. Gardner Brewer, for Orchids,	1 00
Francis Parkman, for Aquilegias,	2 00
Miss A. C. Kenrick, for Cut Flowers,	1 00
" S. W. Story, " " "	1 00
E. S. Rand, Jr., for Shrubs,	1 00
J. F. Rogers, for Ericas,	4 00
J. B. Moore, " Cut Flowers,	2 00
Miss A. C. Wheeler, for Dish of Flowers,	1 00
Mrs. E. M. Gill, " " "	1 00
J. H. Woodford " Late Tulips,	2 00
Marshall P. Wilder, " Tree Pæonies,	4 00

June 12.

Iris (Tuberous varieties). — For the best twelve named varieties, to James McTear,	4 00
Rhododendrons. — For the best twelve named varieties, one truss of each, to E. S. Rand, Jr.,	10 00

Hunnewell Premiums.

Hardy Rhododendrons. — For the best display of named varieties, to E. S. Rand, Jr.,	35 00
Hardy Azaleas.—For the best display of named varieties, to E. S. Rand, Jr.,	20 00
For the second best, to Hovey & Co.,	10 00
For the third best, to Joseph Clark,	5 00

Gratuities:—

To H. H. Hunnewell, for Azaleas and Rhododendrons,	.	$10 00
Hovey & Co., " Rhododendrons,	.	3 00
James Comley, " *Nertera depressa*,	.	1 00
Francis Parkman, " Aquilegias,	.	2 00
Mrs. E. M. Gill, " Basket of Flowers,	.	1 00
John B. Moore, " Cut Flowers,	.	2 00
Miss A. C. Kenrick, " " "	.	1 00
James Comley, " " "	.	2 00
Miss S. W. Story, " " "	.	2 00
Mrs. C. N. S. Horner, for Native Flowers,	.	3 00
James McTear, for Bouquet,	.	2 00
" " " Cut Flowers,	.	1 00
Miss A. C. Wheeler, for Cut Flowers,	.	1 00
Hovey & Co., for Cacti,	.	2 00
Mrs. S. Joyce, for Dish of Flowers,	.	2 00
Miss E. M. Harris, for Pæonies,	.	1 00

JUNE 19.

Gratuities:—

To E. S. Rand, Jr., for Rhododendrons and Azaleas,	.	3 00
James Comley, for Cut Flowers,	.	1 00
James McTear, for Bouquets,	.	1 00
Francis Parkman, for choice Herbaceous Plants,	.	2 00
Miss A. C. Wheeler, for Dish of Flowers,	.	1 00
Mrs. A. D. Wood, " " "	.	1 00
Mrs. S. Joyce, " " "	.	1 00

JUNE 26.

Gratuities:—

To W. H. Spooner, for Roses,	.	1 00
James Comley, " Hybrid Perpetual Roses,	.	1 00
E. S. Rand, Jr., " Cut Flowers,	.	2 00
E. Shepherd, " " "	.	1 00
Miss A. C. Kenrick, for Cut Flowers,	.	1 00
Mrs. S. Joyce, for Basket of Flowers,	.	1 00

ROSE EXHIBITION.

June 28.

Hardy Perpetuals. — For the best twenty-four distinct named varieties, to J. C. Chaffin,	$20 00
For the second best, to William Gray, Jr.,	15 00
For the best twelve distinct named varieties, to William Gray, Jr.,	10 00
For the second best, to James Comley,	8 00
Moss Roses.—For the best twelve named varieties, to A. McLaren,	10 00
Tender Roses.—For the best twelve named varieties, to James Comley,	10 00
For the second best, to E. S. Rand, Jr.,	8 00
Roses.—For the best general display, to Joseph Clark,	15 00
For the second best, to J. S. Richards,	10 00

Special Prizes for Hybrid Perpetual Roses, offered by H. H. Hunnewell. Open to all.

For the best six named varieties, to J. C. Chaffin,	$20 00
For the second best, to William Gray, Jr.,	10 00
For the best twelve of any one variety, to William Gray, Jr.,	20 00
For the second best, to John C. Chaffin,	10 00

Plants in Pots.

Greenhouse Plants.—For the best twelve Greenhouse or Stove Plants of different varieties, to William Gray, Jr.,	30 00
For the second best to James Comley,	25 00
For the best six Greenhouse or Stove Flowering Plants of different varieties, to E. S. Rand, Jr.,	30 00
Specimen Plant.—Regard being had to new and rare varieties. For the best specimen plant of a kind for which no special prize is offered, to James Comley,	10 00
Gloxinias.—For the best single specimen plant, to Joseph Clark,	3 00

NATIVE PLANTS.—For the best display of named species and varieties, one bottle of each, to Mrs. C. N. S. Horner, ... $5 00

WARDIAN CASE.—For the best specimen, to W. H. Halliday, ... 15 00

For the second best, to J. F. Mann, . . . 10 00

FERN CASE.—For the best, not to exceed fifteen inches in diameter, to W. H. Halliday, ... 5 00

For the second best, to William Edgar, . . . 4 00

Cut Flowers.

HERBACEOUS PÆONIES.—For the best ten named varieties, to Hovey & Co., ... 5 00

SWEET WILLIAMS.—For the best thirty trusses, not less than ten distinct varieties, to James Nugent, . 4 00

For the second best, to James McTear, . . . 3 00

SUMMER HERBACEOUS PLANTS.—For the best display of named species and varieties, to James McTear, 5 00

CUT FLOWERS.—For the best display, to James Comley, 5 00

TABLE DESIGN.—For the best, other than a Basket of Flowers, to James O'Brien, ... 5 00

For the second best, to Mrs. A. D. Wood, . . 4 00

For the third best, to Mrs. S. Joyce, . . . 3 00

BOUQUETS.—For the best pair of Parlor Bouquets, to James McTear, ... 3 00

For the best pair of Hand Bouquets, to James O'Brien, ... 4 00

For the second best, to James Nugent, . . . 3 00

Gratuities:

To William Edgar, for Plants in pots, ... 10 00

C. M. Atkinson, for Gloxinias, ... 3 00

J. McTear, for *Kalosanthes coccinea*, . . . 2 00

Marshall P. Wilder, for Gloxinias, ... 3 00

James Comley, for Plants in pots, ... 3 00

James McTear, " " in baskets, . . . 3 00

J. A. Black, for Hybrid Perpetual Roses, . . . 2 00

J. W. Wilcox, for Roses, ... 2 00

J. H. Woodford, " 5 00

Samuel Hartwell, " 2 00

To C. M. Atkinson, for Carnations,	$2 00
E. Shepherd, for Cut Flowers,	2 00
George N. Noyes, for Cut Flowers,	2 00
Miss S. W. Story, " "	1 00
Miss A. C. Wheeler, " "	1 00
E. S. Rand, Jr., for *Magnolia macrophylla*,	1 00
Miss A. C. Kenrick, " "	1 00
John B. Moore, for *Trichinium Manglesii*,	1 00
E. S. Rand, Jr., for Orchids,	2 00
M. W. Clark, for *Myosotis*,	1 00
J. C. Hovey, for Herbaceous Plants,	2 00
Francis Parkman, for *Aquilegia chrysantha*,	1 00
J. Tailby, for Giant Candytuft,	1 00

JULY 2.

DELPHINIUMS.—For the best ten named varieties, to A. McLaren,	4 00
SUMMER PHLOXES.—For the best ten named varieties, the third prize to James McTear,	2 00
CUT FLOWERS.—For the best display, to A. McLaren,	5 00
BASKET OF FLOWERS.—For the best arranged, to Mrs. A. D. Wood,	3 00
For the second best, to Mrs. S. Joyce,	2 00

Gratuities:

To A. McLaren, for Campanulas,	1 00
Hovey & Co., for Pæonies,	2 00
Miss A. C. Wheeler, for Dish of Flowers,	1 00
E. H. Hitchings, for Native Flowers,	2 00
Mrs. C. N. S. Horner, " "	3 00
Mrs. E. M. Gill, for Basket of Flowers,	2 00
Frank Bigelow, for Sweet Williams,	1 00
Miss A. C. Kenrick, for *Magnolia macrophylla*,	1 00
W. H. Spooner, for Moss Roses,	2 00
Hovey & Co., for Pelargonium Asa Gray,	1 00
James Comley, for Cut Flowers,	2 00
George N. Noyes, " "	2 00
Mrs. C. B. Chase, for Cut Flowers,	1 00

July 10.

Summer Lilies.—For the best six spikes, to W. K. Wood,	$5 00
Cut Flowers.—For the best display, to W. K. Wood, .	5 00
For the second best, to James Comley, . . .	4 00
For the third best, to A. McLaren, ...	3 00
Table Design.—For the best, to James O'Brien, . .	3 00
For the second best, to Mrs. S. Joyce, . . .	2 00
Gratuities:	
To Miss A. C. Wheeler, for *Lilium candidum*, . .	1 00
Francis Parkman, for Herbaceous Plants, . .	2 00
Mrs. C. N. S. Horner, for Native Flowers, . .	2 00
E. A. Story, for Lilies, ...	1 00
James Comley, for Roses, ...	3 00
Joseph Clark, for Gloxinias, ...	3 00
E. Shepherd, for Cut Flowers, ...	1 00
Mrs. E. M. Gill, for Cut Flowers, . . .	2 00
Miss A. C. Kenrick, for Cut Flowers, . . .	1 00
James Nugent, " " "	2 00
Marshall P. Wilder, for Gloxinias, ...	1 00
Hovey & Co., for Orchids, ...	5 00
J. B. Moore, for Cut Flowers, ...	1 00
J. S. Richards, for Cut Flowers, ...	3 00
H. Gleason, for Lilies, ...	3 00
Hovey & Co., for *Rhododendron maximum*, . .	1 00

July 17.

Stocks.—For the best display, not less than six varieties, 25 bottles, three spikes in each bottle, the second prize to Mrs. E. M. Gill, ...	3 00
Cut Flowers.—For the best display, filling 150 bottles, to James Comley, ...	5 00
For the second best, to W. K. Wood, . . .	4 00
Table Design.—For the best, other than a Basket of Flowers, to Mrs. S. Joyce, ...	3 00
For the second best, to Mrs. E. M. Gill, . .	2 00
Native Plants.—For the best display of named species and varieties, one bottle of each, to Mrs. C. N. S. Horner, ...	5 00
For the second best, to E. H. Hitchings, . .	4 00
Picotees.—For the best ten named varieties, to James Nugent, ...	5 00

Gratuities:—

To E. S. Rand, Jr., for *Dendrobium Wardianum*,	$2 00
Warren Heustis, for *Lilium auratum*,	1 00
Mrs. Cummings, for *Campanula garganica*,	1 00
James Comley, for *Sempervivum Californicum*,	2 00
Mrs. Stiles Frost, for Bouquets of Sweet Peas,	1 00
Mrs. C. N. S. Horner, for Native Flowers,	1 00
C. M. Atkinson, for Hollyhocks and Carnations,	1 00
Joseph Clark, for choice Flowers,	1 00
Mrs. A. D. Wood, for Dish of Flowers,	2 00
James Nugent, for Cut Flowers,	2 00
Miss A. C. Wheeler, for Cut Flowers,	1 00
A. McLaren, for Cut Flowers,	2 00

JULY 24.

HOLLYHOCKS.—For the best twelve spikes of twelve distinct colors, to Joseph Clark,	10 00
For the second best, to J. S. Richards,	8 00
ORCHIDS.—For the best three varieties, in bloom, to E. S. Rand, Jr.,	10 00
For the second best, to E. S. Rand, Jr.,	8 00
CUT FLOWERS.—For the best display, filling 150 bottles, to James Comley,	5 00
For the second best, to W. K. Wood,	4 00
For the third best, to A. McLaren,	3 00
BASKETS OF FLOWERS.—For the best arranged, to Mrs. S. Joyce,	3 00
BOUQUETS.—For the best pair of Parlor Bouquets, the second prize to James Nugent,	2 00
For the best pair of Hand Bouquets, to James Nugent,	3 00
For the second best, to Mrs. S. Joyce,	2 00

Gratuities:—

To Thomas Tapper, for Plants in pots,	2 00
Mrs. Stiles Frost, for Bouquets,	1 00
Warren Heustis, for *Lilium auratum*,	1 00
C. T. Hubbard, for *Stanhopea tigrina*,	3 00
E. S. Rand, Jr., for Passiflora Empress Eugenie,	2 00
W. H. Spooner, for Phlox Drummondi,	1 00
James O'Brien, for Lilies,	1 00

To Mrs. C. N. S. Horner, for Native Flowers,	$2 00
Hovey & Co., for Cut Flowers,	2 00
Miss A. C. Wheeler, for Dish of Flowers,	1 00
Mrs. C. B. Chase " " " "	1 00
Mrs. A. D. Wood, " " " "	2 00
Mrs. E. M. Gill, " " " "	2 00
Hovey & Co., for Orchids,	3 00
C. M. Atkinson, for Carnations,	2 00
James Nugent, for *Yucca filamentosa*,	1 00

JULY 31.

CUT FLOWERS.—For the best display, filling 150 bottles, the third prize to W. K. Wood,	3 00
For the best collection of fifty named varieties of Greenhouse Flowers, to James Comley,	6 00
For the second best, to Hovey & Co.,	4 00
BASKET OF FLOWERS.—For the best arranged, to Mrs. S. Joyce,	3 00
For the second best, to Mrs. A. D. Wood,	2 00
FUNGI.—For the best collection, to W. K. Wood,	4 00
For the second best, to Mrs. E. M. Gill,	3 00

Gratuities:—

To Macey Randall for Dahlias,	1 00
W. K. Wood, for Seedling Petunias,	1 00
E. Shepherd, for *Dianthus*,	2 00
George E. Davenport, for *Habenaria psychodes*,	1 00
E. H. Hitchings, for Native Plants and Flowers,	2 00
Mrs. C. N. S. Horner, for Native Plants,	2 00
Miss A. C. Wheeler, for Dish of Flowers,	1 00
W. P. Plimpton, for *Lilium auratum*,	1 00
James Comley, for Plants in pots,	3 00
Mrs. E. M. Gill, for Plants and Flowers,	3 00
F. W. Andrews for Begonias,	2 00
Hovey & Co., for *Lilium lancifolium* var. *Melpomene*,	1 00
A. McLaren, for Summer Phlox,	1 00
James Comley, for Cut Flowers,	2 00
E. S. Rand, Jr., for Cut Flowers,	1 00
James Nugent, " " "	1 00

August 7.

Balsams.—For the best twelve spikes, eight varieties, to J. B. Moore,	$4 00
For the second best, to James Comley,	3 00
Bouquets.—For the best pair of Hand Bouquets, to James Nugent,	3 00
For the second best, to Mrs. S. Joyce,	2 00
Cut Flowers.—For the best display, filling 150 bottles, to James Comley,	5 00
For the second best, to J. S. Richards,	4 00
For the third best, to W. K. Wood,	3 00
For the best collection of fifty named varieties of Annuals and Perennials, to C. M. Atkinson,	6 00
Table Design.—For the best, other than a Basket of Flowers, to Mrs. E. M. Gill,	3 00
For the second best, to Mrs. S. Joyce,	2 00

Gratuities:—

To James Comley, for Begonias (tuberous rooted),	3 00
E. S. Rand, Jr., for *Lilium superbum*,	1 00
E. H. Hitchings, for Native Flowers,	1 00
Mrs. C. N. S. Horner, for Native Flowers,	2 00
George E. Davenport, for Native Plants,	1 00
James Nugent, for Cut Flowers,	1 00
E. S. Rand, Jr., " " "	1 00
Miss S. W. Story, " " "	1 00
John B. Moore, " " "	1 00
Mrs. A. D. Wood, for Basket of Flowers,	1 00
J. Warren Merrill, for *Dianthus*,	1 00
James Cartwright, for Seedling Gladioli,	1 00
Herbert Gleason, for Gladioli,	1 00

August 14.

Late Phloxes.—For the best ten distinct named varieties, to Hovey & Co.,	4 00
For the second best, to James McTear,	3 00
For the best Seedling, the Society's Silver Medal to Francis Parkman.	

Petunias.—For the best collection of double and single, filling 50 bottles, not more than three spikes in a bottle, to James O'Brien,	$4 00
For the second best, to W. K. Wood,	3 00
Lilies.—For the best display of *Lilium lancifolium*, to James Comley,	5 00
Cut Flowers.—For the best display, filling 150 bottles, to James Comley,	5 00
For the second best, to James O'Brien,	4 00
For the third best, to W. K. Wood,	3 00
For the best collection of fifty named varieties of Greenhouse Flowers, the second prize to Hovey & Co.,	4 00
Basket of Flowers.—For the best arranged, to Mrs. A. D. Wood,	3 00
For the second best, to Mrs. S. Joyce,	2 00
Native Ferns.—For the best display of named species, one bottle of each, to J. Warren Merrill,	5 00
For the second best to Mrs. C. N. S. Horner,	4 00

Gratuities:

To E. S. Rand, Jr., for Orchids,	3 00
Miss S. W. Story, for Cut Flowers,	2 00
E. S. Rand, Jr., for Cut Flowers,	1 00
E. Shepherd, " " "	1 00
A. McLaren, " " "	2 00
W. H. Spooner, " " "	2 00
E. H. Hitchings, for Native Flowers,	2 00
George E. Davenport, for Native Flowers,	1 00
C. W. W. Wellington, for *Liatris*,	1 00
J. S. Richards, for Gladioli,	4 00
James Cartwright, for Gladioli,	2 00
George Craft, " "	2 00
James Comley, " "	2 00
Macey Randall, for Dahlias,	1 00
C. E. Grant, for *Lilium auratum*,	1 00

August 21.

Gladioli.—For the best twenty named varieties, in spikes, to J. S. Richards,	10 00

For the second best, to George Craft, . . .	$8 00
For the best ten named varieties, in spikes, to George Craft, ...	6 00
For the second best, to J. S. Richards, . . .	5 00
For the best display of named or unnamed varieties, to J. S. Richards, ...	10 00
For the second best, to George Craft, . . .	8 00
For the third best, to Herbert Gleason, . .	6 00
Bouquets.—For the best pair of Parlor Bouquets, to James Nugent, ...	3 00
For the best pair of Hand Bouquets, to Mrs. S. Joyce,	3 00
For the second best, to James Nugent, . . .	2 00
Cut Flowers.—For the best display, filling 150 bottles, to James Comley, ...	5 00
For the second best, to W. K. Wood, . . .	4 00
For the third best, to James O'Brien, . . .	3 00
Table Design.—For the best, other than a Basket of Flowers, to Mrs. S. Joyce, ...	3 00
For the second best, to Mrs. A. D. Wood, . .	2 00

Gratuities:

To E. Shepherd for *Lilium auratum*, ...	2 00
William Falconer, for Gladioli, ...	2 00
C. L. Allen, Queens, N. Y., for Gladioli, . . .	2 00
William H. Spooner, " " . . .	1 00
Macey Randall, for Dahlias.	2 00
Mrs. E. M. Gill, for Dish of Flowers, . . .	1 00
A. McLaren, for Cut Flowers, ...	1 00
Mrs. C. N. S. Horner, for Native Flowers, . .	2 00

August 28.

Asters.—For the best thirty flowers, not less than ten varieties, to C. M. Atkinson, ...	5 00
For the second best, to Hovey & Co., . . .	4 00
For the third best, to J. F. Rogers, . . .	3 00
For the best twenty flowers, not less than six varieties, to Joseph Clark, ...	3 00
For the second best, to John Parker, . . .	2 00
Pompons.—For the best sixty blooms, not less than six varieties, in bunches of three of the same variety,	4 00
the third prize to James O'Brien, . . .	2 00

CUT FLOWERS.—For the best display, filling 150 bottles, to James Comley, ... $5 00
For the second best, to W. K. Wood, . . . 4 00
For the third best, to James O'Brien, . . . 3 00
BASKET OF FLOWERS.—For the best arranged, to Mrs. A. D. Wood, ... 3 00
For the second best, to Mrs. S. Joyce, . . . 2 00

Gratuities:

To James Comley, for Begonias and Phlox, . . . 3 00
W. H. Spooner, for Gladioli, ... 2 00
J. S. Richards, " " 3 00
George Craft, " " 3 00
Herbert Gleason," " 2 00
Miss S. W. Story, for Lilies, ... 1 00
Macey Randall, for Dahlias, ... 1 00
S. G. Stone, " " 1 00
George E. Osgood, for Native Flowers, . . . 1 00
Mrs. C. N. S. Horner, " " . . . 1 00
E. S. Rand, Jr., for Cut Flowers, ... 1 00
Miss A. C. Wheeler, for Dish of Flowers, . . 1 00
Mrs. E. M. Gill, for Design, ... 1 00
James Nugent, for Bouquets, ... 1 00

SEPTEMBER 4.

VERBENAS.—For the best collection, filling 50 bottles, to John B. Moore, ... 4 00
For the second best, to Hovey & Co., . . . 3 00
CUT FLOWERS.—For the best display, filling 150 bottles, to James Comley, ... 5 00
For the second best, to W. K. Wood, . . . 4 00
For the third best, to James O'Brien, . . . 3 00
For the best collection of fifty named varieties of Annuals and Perennials, to James O'Brien, . 6 00
For the second best, to James McTear, . . . 4 00
BASKET OF FLOWERS.—For the best arranged, to Mrs. A. D. Wood, ... 3 00
For the second best, to Mrs. S. Joyce, . . . 2 00
NATIVE PLANTS.—For the best display of named species and varieties, one bottle of each, to Mrs. C. N. S. Horner, ... 5 00

SEPTEMBER 11.

DOUBLE ZINNIAS.—For the best thirty flowers, not less than six varieties, to George Craft,	$4 00
For the second best, to C. M. Atkinson,	3 00
For the third best, to J. B. Moore,	2 00
For the best twenty flowers, not less than four varieties, to Hovey & Co.,	3 00
For the second best, to George N. Noyes,	2 00
CUT FLOWERS.—For the best display, filling 150 bottles, to James Comley,	5 00
For the second best, to James O'Brien,	4 00
For the third best, to W. K. Wood,	3 00
For the best collection of fifty named varieties of Greenhouse Flowers, to C. M. Atkinson,	6 00
For the second best, to James McTear,	4 00
BASKET OF FLOWERS.—For the best arranged, to Mrs. A. D. Wood,	3 00
For the second best, to Miss S. W. Story,	2 00
TABLE DESIGN.—For the best, other than a Basket of Flowers, to Mrs. E. M. Gill,	3 00
For the second best, to Mrs. S. Joyce,	2 00

ANNUAL EXHIBITION.

SEPTEMBER 21, 22, 23, and 24.

GREENHOUSE PLANTS.—For the best twelve greenhouse and stove plants, of different varieties, to Edward Butler,	$40 00
For the second best, to Hovey & Co.,	35 00
SPECIMEN PLANT.—For the best, not variegated, of a kind for which no special prize is offered, to Edward Butler,	10 00
For the second best, to Hovey & Co.,	6 00
SPECIMEN FLOWERING PLANT.—The second prize to E. S. Rand, Jr.,	6 00
VARIEGATED LEAVED PLANTS.—For the best six varieties, not offered in the collection of greenhouse plants, to James Comley,	15 00
For the second best, to Hovey & Co.,	10 00

For the best single specimen, not offered in any collection, to Hovey & Co., ... $5 00
For the second best, to James Comley, . . . 4 00
Caladiums.—For the best six varieties, to Hovey & Co., 6 00
For the second best, to James Comley, . . . 5 00
Ferns.—For the best twelve named varieties, to J. Warren Merrill, ... 15 00
For the second best, to James Comley, . . . 10 00
For the best six named new varieties, to George Higginson, ... 10 00
For the second best, to Edward Butler, . . . 6 00
Tree Ferns.—For the best pair, to J. Warren Merrill, . 15 00
For the best single specimen, not offered in any collection, to James Comley, ... 6 00
Dracænas.—For the best six named varieties, to H. H. Hunnewell, ... 10 00
For the second best, to James Comley, . . . 6 00
Palms.—For the best pair, to Hovey & Co., . . . 10 00
Agaves.—For the best six distinct varieties, to E. S. Rand, Jr., ... 15 00
For the second best, to Hovey & Co., . . . 10 00
Cacti.—For the best twenty-five species and varieties, to J. C. Hovey, ... 10 00
For the second best, to Hovey & Co., . . . 8 00
Succulents.—For the best collection (other than Agaves and Cacti) of twenty-five species and varieties, to J. C. Hovey, ... 15 00
For the second best, to Hovey & Co., . . . 10 00
Best New Pot Plant.—It having never before been shown at any exhibition of the Society, the Society's Silver Medal, to H. H. Hunnewell.
Hanging Baskets.—The plants to have been growing in them at least one month.
For the best, to James McTear, ... 5 00
For the second best, to John Vose, . . . 4 00
For the third best, to Walsh Brothers, . . . 3 00
Gladioli.—For the best display and best kept during the exhibition, of named or unnamed varieties, filling 200 bottles, to J. S. Richards, . . . 10 00
For the second best, to A. McLaren, . . . 8 00

DAHLIAS.—Prizes to be awarded the second day of the exhibition.	
For the best twenty-four named varieties, to Macey Randall, ...	$6 00
For the second best, to S. G. Stone, . . .	5 00
For the best general display, of large flowers only, filling 100 bottles, to Hovey & Co., . . .	8 00
For the second best, to Macey Randall, . . .	6 00
LILIPUTIAN.—For the best general display, filling 50 bottles, to Macey Randall, ...	4 00
For the second best, to S. G. Stone, . . .	3 00
PARLOR BOUQUETS.—For the best pair, to be exhibited on Wednesday, to James Nugent, . . .	6 00
HAND BOUQUETS.—For the best pair on Wednesday, to James Nugent, ...	6 00
For the second best, to Mrs. E. M. Gill, . .	4 00
PARLOR BOUQUETS.—For the best pair, to be exhibited on Thursday, to James Nugent, ...	6 00
For the second best, to James O'Brien, . . .	4 00
HAND BOUQUETS.—For the best pair on Thursday, to James Nugent, ...	6 00
For the second best, to Mrs. S. Joyce, . . .	4 00
LARGE BOUQUETS.—For the best pair, suitable for the Bradlee or Jones Vases, and best kept during the exhibition, to James Nugent, ...	10 00
CUT FLOWERS.—For the best display and best kept during the exhibition, to Hovey & Co., . . .	18 00
For the second best, to James Comley, . . .	16 00
For the third best, to James O'Brien, . . .	14 00
For the fourth best, to J. S. Richards, . . .	12 00
For the fifth best, to James Nugent, . . .	10 00
For the sixth best, to James McTear, . . .	8 00
For the seventh best, to John Parker, . . .	6 00
BASKET OF FLOWERS.—For the best arranged, to be exhibited on Tuesday, to Mrs. A. D. Wood, . .	5 00
For the second best, to Miss S. W. Story, . .	4 00
For the best arranged, to be exhibited on Thursday, to Mrs. A. D. Wood, ...	5 00
For the second best, to Miss S. W. Story, . .	4 00
RUSTIC STAND.—For the best specimen, not less than	

three feet in height, to be planted with choice plants, to James Comley, ... $10 00
For the second best, to Walsh Brothers, . . 8 00
TABLE DESIGN.—For the best, to be arranged without fruit, and not to exceed four feet in height, to Mrs. E. M. Gill, ... 10 00
For the second best, to Mrs. S. Joyce, . . . 8 00

Hunnewell Premiums.

EVERGREEN TREES AND SHRUBS.—For the best display, in pots, to Hovey & Co., ... 8 00
For the second best, to James Comley, . . . 5 00

Gratuities:—

To C. M. Atkinson, for *Tacsonia princeps*, . . . 2 00
" " " *Crassula corymbulosa*, . . 1 00
John L. DeWolf, for *Amaryllis Belladonna*, . . 3 00
Jackson Dawson, " *Desmodium pendulæflorum*, . 2 00
J. W. Merrill, " *Rochea falcata*, . . . 2 00
E. S. Rand, Jr., " *Epidendrum cuspidatum*, . . 2 00
James Comley, for New Plants, ... 6 00
" " " Collection of Plants, . . 25 00
F. W. Andrews, " " " . . . 10 00
E. S. Rand, Jr., " " " . . . 8 00
Hovey & Co., " " " . . . 10 00
Walsh Brothers, " " " . . . 20 00
" " " Hanging Baskets, . . . 10 00
J. W. Merrill, " rare Ferns, ... 8 00
George Higginson, for choice Ferns, . . . 8 00
J. W. Merrill, for Filmy Ferns, ... 3 00
A. B. Gilbert, " Ferns, ... 2 00
A. Greenlaw, " Wardian Case, ... 4 00
Samuel G. Stone, for Asters, ... 3 00
John C. Hovey, " new and rare Succulents, . 10 00
Hovey & Co., " fine pair of Box Trees, . . 5 00
Mrs. C. N. S. Horner, for Native Plants and Flowers, 4 00
George Everett, for Dahlias, ... 3 00
Macey Randall, " " 1 00
W. H. Spooner, " Lilies and Gladioli, . . . 5 00
W. C. Strong, for Variegated Foliage, . . . 2 00

To Walsh Brothers, for Cut Flowers,	$5 00
George Craft, " " "	2 00
James O'Brien, " " "	1 00
George Higginson, for Cut Flowers,	2 00
" " " Cockscombs,	2 00

October 16.

Table Design.—For the best, other than a Basket of Flowers, to Mrs. S. Joyce,	3 00
For the second best, to Mrs. E. M. Gill,	2 00
Parlor Bouquets.—For the best pair, to James Nugent,	4 00
Hand Bouquets.—For the best pair, to Mrs. S. Joyce,	3 00
For the second best pair to James Nugent,	2 00

Gratuities:

To James Comley, for Bouquet and Cut Flowers,	3 00
E. S. Rand, Jr., for Cut Flowers,	2 00
Mrs. A. D. Wood, for Dish of Flowers,	2 00
Miss A. C. Wheeler, for Dish of Flowers,	1 00

October 23.

Gratuities:

To E. S. Rand, Jr., for Orchids,	2 00
James Comley, for Cut Flowers,	2 00
Mrs. S. Joyce, for Dish of Flowers,	2 00
Mrs. A. D. Wood, for Dish of Flowers,	2 00
Mrs. E. M. Gill, " " "	2 00

October 30.

Gratuities:

To J. B. Moore, for *Lapageria alba*,	2 00
Mrs. C. N. S. Horner, for Native Flowers,	2 00
Mrs. S. Joyce, for Dish of Flowers,	2 00
E. S. Rand, Jr., for Cut Flowers,	1 00
Mrs. E. M. Gill, " " "	1 00
James Comley, " " "	2 00

CHRYSANTHEMUM SHOW.

November 6.

For the best six distinct named Large Flowered varieties, in pots, to George Higginson,	$10 00
For the best six distinct named Pompons, in pots, to George Higginson,	10 00
For the second best, to George Higginson,	6 00
For the best twelve named Pompon varieties, Cut Specimens, to Joseph Clark,	3 00
For the second best, to James Nugent,	2 00
For the best general display, named or unnamed varieties, Cut Specimens, filling 50 bottles, to Joseph Clark,	5 00
For the second best, to James Nugent,	4 00
Basket of Flowers. — For the best arranged, to Mrs. A. D. Wood,	3 00
For the second best, to Mrs. S. Joyce,	2 00
Hand Bouquets.—For the best pair, to James O'Brien,	3 00
For the second best, to James Nugent,	2 00

Gratuities:

To George Higginson, for Chrysanthemums,	4 00
James Comley, " "	4 00
Marshall P. Wilder, " "	1 00
E. S. Rand, Jr., " Orchids,	4 00
Samuel G. Stone, " Dahlias,	1 00
Hovey & Co., " *Epiphyllum*,	2 00
Miss A. C. Wheeler, " Dish of Flowers,	1 00
Mrs. E. M. Gill, " " " "	1 00
James Comley, " Table Design,	2 00
" " " Cut Flowers,	3 00

November 13.

Gratuities:

To C. M. Atkinson, for Chrysanthemums,	5 00
J. F. Rogers, " "	2 00
James McTear, " "	3 00
" " " *Nerine coruscans*,	1 00

To James Cartwright, for *Zygoptalum Mackayi*,	$2 00
Mrs. E. M. Gill, for Dish of Flowers,	2 00
Miss A. C. Wheeler, for Dish of Flowers,	1 00
Mrs. S. Joyce, for Dish of Flowers,	2 00
Mrs. A. D. Wood, for Dish of Flowers,	2 00

NOVEMBER 20.

Gratuities:

To James Comley, for *Cupania filicifolia*,	2 00
" " " Cut Flowers,	2 00
" " " Bouquets,	2 00
Mrs. A. D. Wood, for Dish of Flowers,	2 00
" S. Joyce, " " " "	2 00
" E. M. Gill, " " " "	2 00
Miss A. C. Wheeler, for " " "	1 00
C. T. Hubbard, for *Maxillaria picta*,	1 00

NOVEMBER 27.

Gratuities:

To E. S. Rand, Jr., for Orchids,	4 00
C. T. Hubbard, " *Cypripedium insigne*,	2 00
Mrs. E. M. Gill, " Dish of Flowers,	1 00
Miss A. C. Wheeler, for Dish of Flowers,	1 00
Mrs. S. Joyce, for Dish of Flowers,	1 00
Mrs. A. D. Wood, for Dish of Flowers,	1 00
James Comley, for Cut Flowers,	2 00

The following Medals and Certificates of Merit have been awarded:

February 6th, to James Cartwright, for *Cœlogyne cristata*, Silver Medal.

March 13, to William Gray, Jr., for Rare Japan Evergreens, Silver Medal.

June 28th, to Joseph Clark, for Seedling Gloxinia, First Class Certificate of Merit.

June 28th, to James McTear, for *Nertera depressa*, Silver Medal.

August 14th, to Francis Parkman, for Seedling Phlox, Silver Medal.

August 14th, to Daniel Duffy, for *Amaryllis Belladonna*, Bronze Medal.

August 14th, to J. Warren Merrill, for *Lygodium palmatum*, First Class Certificate of Merit.

August 21st, to James Comley, for Seedling Tuberous Rooted Begonias, First Class Certificate of Merit.

August 21st, to J. F. C. Hyde, for Seedling Gladiolus, First Class Certificate of Merit.

September 11th, to Mrs. A. T. Perkins, for *Lilium auratum*, Silver Medal.

September 25th, to E. S. Rand, Jr., for *Nymphœa Devoniensis*, Bronze Medal.

October 16th, to Joseph Clark, for *Eucharis Amazonica*, Silver Medal.

November 27th, to William Gray, Jr., for *Cypripedium insigne*, Silver Medal.

The amount awarded to each contributor is as follows:

C. L. Allen,	$4 00	C. B. Gardiner,	$7 00
F. W. Andrews,	12 00	A. B. Gilbert,	2 00
C. M. Atkinson,	54 00	Mrs. E. M. Gill,	93 00
F. Bigelow,	1 00	Herbert Gleason,	9 00
J. A. Black,	2 00	C. E. Grant,	1 00
Mrs. Gardner Brewer,	1 00	William Gray, Jr.,	191 00
Edward Butler,	56 00	A. Greenlaw,	4 00
A. P. Calder,	1 00	W. H. Halliday,	20 00
James Cartwright,	11 00	Miss E. M. Harris,	1 00
J. C. Chaffin,	50 00	Samuel Hartwell,	2 00
Mrs. C. B. Chase,	2 00	Warren Heustis,	2 00
Joseph Clark,	48 00	George Higginson,	52 00
W. M. Clark,	1 00	E. H. Hitchings,	14 00
I. E. Coburn,	1 00	Mrs. C. N. S. Horner,	58 00
James Comley,	404 00	Hovey & Co.,	379 00
Dr. E. Cowles,	1 00	John C. Hovey,	39 00
George Craft,	33 00	C. T. Hubbard,	5 00
Mrs. Cummings,	1 00	H. H. Hunnewell,	72 00
Geo. E. Davenport,	6 00	Mrs. S. Joyce,	124 00
Jackson Dawson,	2 00	Miss A. C. Kenrick,	8 00
William Edgar,	19 00	J. F. Mann,	10 00
George Everett,	3 00	A. McLaren,	34 00
William Falconer,	2 00	J. McTear,	100 00
J. A. Foster,	2 00	J. Warren Merrill,	49 00

J. B. Moore,	$58 00	W. H. Spooner,	$14 00
Norton Bros.,	5 00	Samuel G. Stone,	21 00
Geo. N. Noyes,	4 00	Miss S. W. Story,	44 00
James Nugent,	97 00	W. C. Strong,	2 00
James O'Brien,	83 00	Joseph Tailby,	4 00
Geo. E. Osgood,	1 00	Thomas Tapper,	2 00
John Parker,	8 00	John Vose,	4 00
Francis Parkman,	10 00	Walsh Bros.,	46 00
W. P. Plimpton,	1 00	C. W. W. Wellington,	1 00
Francis Putnam,	5 00	Miss A. C. Wheeler,	18 00
E. S. Rand, Jr.,	233 00	J. W. Wilcox,	2 00
Macey Randall,	22 00	Marshall P. Wilder,	52 00
J. S. Richards,	79 00	Mrs. A. D. Wood,	99 00
John Robinson,	2 00	W. K. Wood,	47 00
J. F. Rogers,	9 00	J. H. Woodford,	14 00
W. O. Ross,	5 00	D. Zirngiebel,	1 00
E. Shepherd,	10 00		

Amount appropriated,	$2,800
" awarded,	2,777
Balance,	$23

Amount awarded for Hunnewell and Gray Special Prizes, $218.

REPORT

OF THE

COMMITTEE ON FRUITS,

FOR THE YEAR 1875.

By HERVEY DAVIS, Chairman.

The winter of 1874–5, had no very remarkable features, with the exception of the severe cold, which was unparalleled for steadiness and duration, having commenced about the first of December and continued until March, with hardly a day of mild weather such as we almost always have during the winter months, and particularly in January, when we usually have a thaw in the course of the month. The ground is believed to have frozen deeper than ever before known, and in many places in Boston and vicinity, the water pipes were frozen in places where they were never known to freeze before. It was thought by many that the extreme cold of winter would destroy most of the small fruits of New England, but we were happily disappointed in this respect, as most of the small fruits came out in the spring in fine order, and we had an abundance of most of them, particularly of strawberries, of which the crop is believed to have been one of the best for a number of years. Blackberry canes were considerably injured by the severe winter, and in some places entirely killed, so that the crop of this very valuable fruit was almost an entire failure in Massachusetts. The more tender varieties of the native grape vines, that were not protected by being covered in some way, were either killed or badly injured. It would seem from the effects of the past cold winter that it would be the wisest and safest way for all amateur grape growers who have only a limited number of vines, to have them well protected during the winter; by so doing, they will be surer of an annual crop of fruit. The season was very cold and

backward in the spring, which affected our weekly exhibitions unfavorably. The schedule of prizes having been made to suit average seasons, many of our early shows were not as good as they would have been, if the premiums for some of the fruits had been a week or two later. The exhibitions during the season, have, however, been very satisfactory, and, we think, up to the average of previous years. We notice there has been quite an improvement the past season in the quality of fruits on exhibition, which is very much to the credit of the exhibitors, and, we think, a very great satisfaction to the visitors who honor our exhibitions with their presence. We would call the attention of the exhibitors to the schedule of prizes for 1876; it will be noticed that the fruit prizes have been almost entirely changed, and, as we hope, for the better. Most of the collections have been dropped, and premiums offered for single dishes in their stead, which, it is believed, will be a great improvement on the old plan. We would also call attention to the amendment of our By-Laws, offering our premiums to all persons, whether members of the Society or not, which we hope will have the desired effect to greatly improve our exhibitions.

Strawberries.—The exhibitions of forced strawberries were not as good as last year, there having been only two baskets exhibited during the season, one March 20th, by George Cruickshanks, gardener to John C. Whitin, of Whitinsville, and the other, April 3d, by Richard Oldreive. June 5th, Charles Garfield exhibited a basket of strawberries raised in frames under glass, and he also exhibited two baskets on the 12th of June, one of Triomphe de Gand, and one of Agriculturist, both of them very fine. June 19th, Marshall P. Wilder exhibited a fine basket of President Wilder, and J. H. Woodford an extra fine basket of the same variety, both started in frames under glass. It may be inferred from these remarkably fine specimens of the President Wilder, that it is well adapted to this manner of cultivation. John B. Moore, also had four baskets of fine Jenny Lind, of open culture. At the Rose Show, June 28th (postponed from June 17th), John B. Moore was awarded the first prize for early strawberries, for his seedling, Grace, and Warren Heustis the second prize, for Colonel Cheney. At the Strawberry Show, July 2d, we have to report one of the largest and best displays of strawberries ever made by this Society. There were upon the tables one hundred and sixteen baskets and dishes of fruit, all of them good, and some of them

remarkably fine. The first prize for the best four quarts of any variety was awarded to Hovey & Co., for Hovey's Seedling; and the second to John B. Moore, for Jucunda. For the best two varieties, of four quarts each, the first prize was taken by John B. Moore, for Grace and Hovey's Seedling, and the second by B. G. Smith, for President Wilder and Jucunda. The first prize for the best four varieties, was awarded to John B. Moore for Champion, Late Prolific, Wilder, and Triomphe de Gand. The first prize for the best collection, was awarded to B. M. Watson, for twenty-one varieties. The first prize for the best fifty berries, was awarded to Warren Heustis, for Col. Cheney.

Of new varieties and seedlings, June 28, N. B. White exhibited Monarch of the West, a very large berry, but very irregular in shape and coarse in its general appearance, and not ripening evenly, most of the berries appearing to be ripe all but the small end, which was quite green, giving it a very bad appearance. The quality is not first rate, but might be called good. Augustus Parker exhibited a seedling, said to be a cross between Triomphe de Gand and Brighton Pine; berry large size, color pale red, quality not first rate.

John B. Moore, presented three new seedlings; No. 26, very large size, regular in shape, and of good color; Nos. 27 and 28, not quite as large as No. 26, otherwise about the same; the quality not as good as many of his other seedlings.

July 10th, Mr. Moore exhibited his seedling, Belle, which is one of the largest strawberries ever shown here, of very fine color and remarkably handsome, and he was awarded a First Class Certificate of Merit. He also exhibited his seedling, General Sherman, which has been described in previous reports, and is a very large and handsome fruit. Hovey & Co. exhibited their seedling No. 10, or Souvenir, which was described in last year's report.

By invitation of Mr. Moore, the Fruit Committee visited his grounds on July 1st to examine his different varieties of strawberries and his manner of growing them. They found his beds in perfect order and very free from weeds; all the fruit well protected by clean straw, and all the different varieties kept by themselves and well marked. This visit gave the Committee an opportunity to judge of the productiveness of the different varieties. Although Mr. Moore had picked many of his earliest kinds, we noticed, among others, the following varieties, from which not

many had been picked; Triomphe de Gand, President Wilder, Hovey's Seedling, Champion, Late Prolific, Jucunda, Caroline, Grace, Belle, and General Sherman; all in fine condition and full of fruit. After a thorough and careful inspection, it was the opinion of the Committee that the Caroline and Grace made the best show, and bore by far the largest crop of fruit of any of the varieties.

Cherries.—The exhibitions of this fruit have continued about the same as in previous seasons. There have been no new varieties worthy of particular mention, with the exception of J. H. Fenno's seedling, Norfolk; this is a late variety and resembles Downer's Late very much in color and size of fruit; and in flavor it was considered a decided improvement. It is quite as late in ripening, the best specimens having been shown July 24th, which will make it a valuable acquisition. The first prize for the best four varieties, July 2d, was awarded to C. E. Grant, for Knights' Early Black, Black Heart, Black Tartarian, and Black Eagle. For the best two quarts of any variety, to F. R. Shattuck, for Black Tartarian. July 10th, for the best two quarts of any variety, Phineas J. Stone, received the first prize for Black Tartarian. Knights' Early Black, Elton, Black Eagle, Black Tartarian, Downer's Late, and J. H. Fenno's seedling, Norfolk, comprised most of the varieties exhibited during the season.

Currants.—The shows of this fruit compared very favorably with those of former seasons. July 17th, the Versaillaise received all the premiums for red currants, and Dana's White, for white currants. July 24th, the first prize for a collection was awarded for the following varieties: Versaillaise, Transparent, Dana's New White, and Black Naples. In other collections, we noticed the White Grape, Cherry, and Red Dutch, which comprised nearly all the varieties shown during the season.

Gooseberries.—We have but little to say of this fruit. July 31st, Smith's Seedling received the first prize, and Downing's Seedling the second, for native varieties. For foreign varieties, the first prize was awarded for Bangup, which was one of the best dishes of this fruit exhibited during the season, and we think for several seasons; the second prize was awarded for Whitesmith; this was also a very fine dish.

Raspberries.—July 10th, the first prize was awarded for Franconia, and the second for American Black Cap. July 17th, all the

prizes were taken by the Franconia. The above were the two prize days for raspberries, but the season being late, many of the varieties were not ripe, and our best show of this fruit was July 24th, when we had a very fine collection, of the following varieties: Clarke, Saunders, Hornet, Herstine, and Franconia. We were glad to have the opportunity of testing the Herstine, which we found large and of fine quality, but not superior to the other varieties commonly cultivated here.

Blackberries.—The show of blackberries, we are sorry to say, was the most inferior for several seasons; the reason for it was probably the remarkably cold winter, which entirely killed the canes in some places, and severely injured them in others. July 31st, the prizes were awarded for the Dorchester, and there were also some very fine specimens of this variety shown August 24th, as well as some good Kittatinny and other varieties. August 7th, A. W. Cheever, exhibited the Snyder blackberry, of which there has been so much said in some of the Western States. We were unable to distinguish anything worthy of particular notice. It is said to be a great bearer, and somewhat less thorny than other varieties, but in quality we do not think it as good as the Dorchester or Wilson.

Plums —This fruit has almost disappeared from our exhibitions, hardly any of the specimens during the season being worthy of a premium. August 21st, the first prize for a single dish was awarded for Washington. At the Annual Exhibition, Sept. 21st, the first prize for a collection, was awarded for the following varieties: Washington, Jefferson, Columbia, Coombs, Lawrence's Favorite, Prince's Yellow Gage, and Bradshaw, exhibited by Elijah Low, of Bangor, Maine; and for the best single dish for Coe's Golden Drop. John Falconer had in his collection of orchard-house fruits, the following varieties of plums: Rivers' Sultan, Prince Englebert, and Guthrie's Late Green.

Nectarines.—August 21st, John Falconer exhibited Albert Victor and Stanwick, of orchard-house culture. September 11th, J. Fisk Allen, a seedling; September 21st, he also exhibited two seedlings, one from the Violette Hative, and one from Hunt's Tawny. They were considered very fine specimens, and of good quality. September 21st, John Falconer had in his collection of orchard-house fruits, the following varieties: Rivers' Pineapple, Stanwick Elruge, and Balgowan; all of them fine specimens, well ripened, and of good quality.

Apricots.—For the first time for several years we have had the pleasure of seeing the apricot upon our tables, the Moorpark having been shown on the 14th and 21st of August.

Figs.—On the prize day for figs, only one dish was offered, and that received the first premium. At the Annual Exhibition, we had several dishes to which gratuities were awarded.

Peaches.—The exhibition of forced peaches is hardly worthy of mention, none of the prizes having been awarded. C. D. Kingman received a gratuity for specimens of Early York, which were very good. The display of orchard-house peaches, with other fruits, has been very fine, particularly those from John Falconer. August 21st, he made a very fine exhibition of peaches and nectarines, and one Souvenir de Congrès pear, weighing two pounds. At the Annual Exhibition, September 21st, his display was very fine, containing the following varieties: Alexandra Noblesse, Falcon, Magdala, Dr. Hogg, Lady Palmerston, Crimson Galande, Stanwick Early York. The crop of out-door peaches, was not as good as last season, but above the average for the past few years. August 28th, the third prize was awarded for Yellow and Red Rareripe, and the fourth for Early Crawford. September 11th, the first prize was awarded for Foster's Seedling, and the second for Early Crawford. At the Annual Exhibition, the first prize for the best single dish was awarded for Early Crawford, and the second for Foster's Seedling. The display of peaches at this exhibition was not equal to last year, but would compare favorably with those of former seasons. There were several seedlings shown during the season, but none of any great merit. September 4th, J. T. Foster exhibited his seedling, Laura. J. H. Fenno also exhibited seedlings during the season; some of them very good, but nothing better than the best varieties now under cultivation.

Apples.—The exhibition of this the most valuable of all fruits, would not compare favorably with the display last year; but this can be accounted for in part, by its being what is generally called the off year; or, in other words, the year that most of the leading varieties do not bear in the New England States. The fruit that has been shown was not equal to that of the previous year; most of it being imperfect and much of it wormy and poor.

August 7th, the first prize was awarded for Sweet Bough, and the second for Williams. August 14th, the second prize for a collection was awarded for the following varieties: Watkins' Early,

Williams, Early Harvest, Early Bough, Sops of Wine, Red Astrachan, and Duchess of Oldenburgh. The prize for Sweet Bough was awarded to Benjamin B. Davis; for Red Astrachan, to Warren Heustis; for Williams, to T. M. Davis, and for "any other variety," to T. M. Davis, for Summer Harvey. September 4th, the prizes for apples were awarded, the first for Gravenstein, and the second and third for Porter. September 11th, the first two prizes were awarded for Gravenstein. At the Annual Exhibition, the first prize for the best twenty varieties was given to F. & L. Clapp, and for the best fifteen varieties to William T. Hall. For the best ten, not awarded; for the best five to S. N. Gaut. There was no exhibition of new varieties. Many of the prizes for single dishes were awarded, and some of them were very fine specimens. October 9th, the first prize for the best five varieties, was awarded to J. H. Fenno, and for the best single dish to the same, for Washington Strawberry. November 6th, the first prize for ten varieties of winter apples, was given to J. H. Fenno. For the best single dish to Walter Russell, for Hubbardston.

August 14th, J. H. Masters, of Nebraska City, sent the following varieties of apples for exhibition: Red June, Cooper's Early White, Early Red, Buffington's Early, and Williams. Most of the above specimens arrived in bad order, which can be accounted for by their being sent so far at a season of the year when the weather was so hot. The Red June was in the best condition, and appeared to be the best in quality; we could not judge so well about the other varieties, on account of their bad order.

October 23d, Dr. Charles C. Hamilton, of Cornwallis, N. S., exhibited a very fine collection of apples, containing ten varieties, all of them fine specimens, and some of them very large and handsome. Those worthy of particular notice were Chebucto Beauty, very large and handsome; Large Yellow Bough, which, as compared with those grown in New England this year, was very much better; Ribston Pippin, much finer than with us; Yellow Bellflower, very large and handsome; Chenango Strawberry, very fine specimens, long, pale yellow, striped with red; this variety is not grown much in Massachusetts, but deserves trial here; Gravenstein, larger and more perfect specimens than ours. The whole collection was remarkably fine and very free from worms, and for it Dr. Hamilton was awarded the Society's Silver Medal.

Pears.—January 23d, the first prize for winter pears was not

awarded, as the collection shown was not worthy of it; but the second prize was awarded to J. H. Fenno, whose statement of his method of keeping is as follows: "The specimens of fruit exhibited by me this day were kept in the following manner: when picked from the trees they were placed in a dry room, and after remaining about fifteen days they were removed to a cold, damp cellar, and placed on swing shelves about one inch apart. The object in first placing them in a dry room was to produce a slight contraction of the outer skin of the fruit. I find by this experiment that both pears and apples keep longer and retain their quality much better under this treatment, as it prevents the escape of the vital fluids of the fruit. The cellar should be well ventilated." March 13th, E. A. Hall presented some very fine specimens of Winter Nelis; they were well kept and in excellent condition. On the 17th of March, J. H. Fenno presented some very fine Josephine de Malines; this is one of the best pears for this season of the year, there being but very few first-class varieties that will keep as late. April 3d, Alexander Dickinson exhibited a very good dish of Easter Beurre; they were well kept and in fine order. April 17th, F. & L. Clapp presented for inspection and trial their Seedling No. 64; the fruit is large, roundish, with a bright red cheek; thin skin, of a greenish yellow; flesh white, sweet and nearly melting; in shape not unlike the Glout Morceau. This must be one of the most valuable of their many seedlings, if it proves to be hardy and a good bearer, and will be a great acquisition to the public, as we have but few good pears that will keep until the middle of April. The above mentioned specimens were well kept and in perfect order and very handsome.

The pear crop of 1875 was more than an average one, and in some particulars quite remarkable; some varieties were larger and handsomer than ever before shown, and others much below their usual size. For instance, at the Annual Exhibition the Bartlett, Beurre Hardy, and Seckel were larger and handsomer than ever before exhibited. The largest dish of Bartlett weighed nine pounds and two ounces; the largest dish of Beurre Hardy, eight pounds five and a half ounces; Marie Louise, four pounds thirteen ounces; Seckel, three pounds three-fourths of an ounce; Beurre Diel, ten pounds nine ounces. It must be inferred that the season was particularly adapted to the above named varieties, and as an offset the Duchesse d'Angouleme and some other varieties were

very inferior and much below their usual size and beauty. July 31st, the prizes for early pears were awarded for the Doyenne d'Ete, and Beurre Giffard. August 7th, the second prize for a collection of early pears was given to J. H. Fenno for the following varieties: Beurre Giffard, Doyenne d'Ete, Madeleine, Bloodgood, and Rostiezer. The prizes for single dishes were all awarded to Beurre Giffard, and they were all very fine. August 21st, the first prize for Clapp's Favorite was awarded to F. & L. Clapp. The first prize for "any other variety" to Horace Eaton, for Rostiezer. August 28th, the first prize for the best collection was given to Charles F. Curtis for Bartlett, Clapp's Favorite, Doyenne Boussock, Tyson, and Rostiezer. September 4th, the first prize for the best dish of pears was awarded for Clapp's Favorite. September 11th, the first prize was also awarded for Clapp's Favorite. This variety has been remarkably fine this season. At the Annual Exhibition, the first prize for the best twenty varieties was awarded to Hovey & Co., whose collection comprised the following varieties: Adams, Andrews, Bartlett, Belle Lucrative, Beurre d'Anjou, Beurre Bosc, Beurre Hardy, Dana's Hovey, Doyenne Boussock, Doyenne du Comice, Howell, Marie Louise, Moore's Pound, Paradis d'Automne, Pratt, Seckel, Sheldon, St. Michel Archange, Swan's Orange, Urbaniste. The other collections were composed of many of the same varieties.

The first prize for the best fifteen varieties was given to John L. DeWolf; for the best ten to C. E. Richardson; for the best five to John McClure. The prizes for single dishes were all awarded. October 9th, the first prize for the best ten varieties was awarded to Hovey & Co., and for the best five varieties to John McClure. For the best single dish to W. T. Andrews, for Beurre Bosc. November 6th, for the best five varieties of winter pears, to Hovey & Co., and for the best single dish to J. H. Fenno, for Beurre d'Anjou.

The Messrs. Clapp, have exhibited many of their seedlings during the season. No. 64, shown April 17th, has been spoken of in another part of this report. October 3d, we had No. 125, a seedling from the Urbaniste; above medium size; roundish turbinate; skin clear yellow, without blush, dotted and traced with thin russet; flesh white, very sugary, moderately juicy; "very good." At the same time, No. 65, was exhibited; above medium size; broad obtuse turbinate; flesh greenish white, fine grained,

melting, buttery, juicy, sprightly, rich, with the Beurre d' Anjou aroma and texture; supposed to be from seed of that variety. October 22d, No. 127, from seed of Urbaniste; quality "best." No. 75 has been described in former reports. No. 22 was shown again this season, and continues to hold its high reputation for quality. November 13th, No. 1, which has been described in former reports, was presented. No. 17 is a new seedling, never before exhibited; believed to be from seed of the Seckel; medium size, color greenish yellow, quality good.

March 2d, 1875, Marshall P. Wilder presented the following seedlings, from B. S. Fox, of San Jose, Cal. No 150½, medium size, roundish turbinate, smooth russet; too far gone to judge of well, but so far as could be tested, sweet and rich, keeping sound at the core. Fox's No. 22; medium size; strongly resembling Beurre d'Aremberg in form, color, calyx, and seeds, and varying like that; flesh sweet with some astringency; rich, fine grained, with some granules around the core; seeds large and plump, cells very large. Fox's seedling, Col. Wilder, large, oval, in size and shape like Beurre d'Anjou, and sometimes (one specimen out of four) elongated like that variety; sweet, but not melting; calyx large, partially open, irregular.

A specimen of British Queen, from Amos Bates, gathered during the Annual Exhibition, was tested October 5th; above medium size; obovate obtuse pyriform; skin clear yellow, nearly covered with thin russet, and reddened toward the sun; flesh white, fine grained, melting, juicy, sprightly and good, but with a little too much astringency.

A coreless pear, from Dr. A. C. Hamlin, Bangor, Me., was brought in October 19th; form oblong, very obtuse and broad at the stem end (oblong obovate); skin dull yellow with a tinge of red towards the sun; flesh pretty white, melting, juicy, sweet and rich; some slight marks of core, but no appearance of a seed; externally it resembles Bonne d'Ezee. Origin unknown, but supposed to be some old variety which has assumed this peculiar condition, and not a seedling, but may be. It is entirely distinct from the Poire Sans Pepins of the French. October 16th, A. J. Dean exhibited a pear called Rogers' Seedling, of fair quality. October 23d, Marshall P. Wilder exhibited a seedling pear, called Lancaster; grown by T. S. Lancaster, of Gloucester; of medium size; in quality could hardly be called good. November 13th, he

also presented his seedlings Mima Wilder and Eddie Wilder, which have been mentioned in former reports, and they were found to retain their previous good quality.

Native Grapes.—We have again to report an unfavorable grape season, and a poor grape crop. September 4th and 11th, the first prize was awarded for Moore's Early. This has proved to be the best early grape shown this season, and retains its previous good reputation. This variety also received the first prize at the Annual Exhibition for any other variety than those named.

The display of native grapes at the Annual Exhibition was as good as last season, but not equal to some previous years. But one of the prizes for the best ten varieties was awarded, and but two for five varieties. For the single dishes most of the first prizes were awarded. The premium for new varieties was not awarded.

N. B. White's seedling, Norfolk Muscat, has improved very much in quality and size of bunch; the bunches shown this year were of good size and well ripened, and if it proves to be hardy, it will be a valuable grape. C. G. Pringle exhibited several seedlings,—a white grape, with small bunch and berry, from seed of Adirondac fertilized with Delaware; a black grape with small sized berry, from seed of Adirondac fertilized with Delaware; a red grape with small bunch and berry, from seed of Creveling fertilized with Delaware, and resembling Diana; also one from seed of Concord fertilized with Delaware; good sized bunch and berry. In the above varieties we could not see any improvement over the old ones, from which they are said to have originated. J. B. Moore's list of seedlings comprised No. 7, a red grape; No. 4, a black grape, medium sized bunch and berry; No. 3, black, small bunch and berry; No. 2, black, good sized bunch and berry; No. 73, black, with large bunch and berry; No. 76, black, medium sized bunch and berry; No. 72, black, with good sized bunch and large berry. Mr. Moore exhibited twelve other seedlings, not named or numbered. In the above list there are some that promise to be valuable, but the past two seasons have been very unfavorable for the grape, and it was thought best only to make a memorandum of all and not pass particular judgment on any, until they had a further trial under more favorable seasons. Mr. Moore has succeeded in originating one valuable seedling, Moore's Early, and out of his long list of seedlings we hope he may be able to find some as good, if not better, than the one named.

J. Fisk Allen had three varieties of seedlings, of the wild red grape parentage; two of the second and one of the third generation; they were all black, with good sized bunch and berry and from fair to good quality, and were considered worthy of further trial. Hovey & Co. exhibited the Cambridge grape, the history of which is as follows: It is a chance seedling found by Francis Houghton, of Somerville, in his garden, some eight or ten years since; it was first fruited by him, seven or eight years ago, and when first exhibited at the room of the Cambridge Horticultural Society the bunches were quite large and very compact; the berry good size and covered with a heavy bloom; quality, much like the Concord; it was about ten days earlier than the Concord; at that time it was considered a valuable seedling.

November 6th, J. Fisk Allen again exhibited his seedling, the Fisk grape. It resembles the Isabella, and at that time was quite ripe and of very fine flavor. H. E. Hooker, of Rochester, N. Y., sent specimens of the Brighton grape for trial; after testing it thoroughly, we think it a grape of fine quality, and if it proves to be hardy, as is claimed, it will be a valuable acquisition. It is a cross between the Concord and Diana Hamburg, and was originated by Jacob Moore, of Brighton, N. Y.

Marshall P. Wilder exhibited the Champion; this is a black grape; medium sized bunch and berry; of good quality; a great bearer and very early, which he thinks will make it quite valuable.

Foreign Grapes.—The show of foreign grapes will compare favorably with those of former seasons. There were some very fine bunches shown June 28th, and the prizes were all awarded, but at the Strawberry Show, July 2d, none of the premiums were awarded. At the Annual Exhibition there was a very good display. E. W. Wood had some very fine bunches in his collection, and his fruit was all well grown and well ripened. George Higginson had some very fine fruit. E. S. Rand, Jr.'s collection was very fine and well grown, considering this was his first crop from young vines. B. G. Smith had a very good collection and some very fine bunches. E. H. Luke also had some very fine fruit in his collection, and would most probably have received one of the prizes had there not been a mistake in naming some of his varieties. George B. Durfee made an excellent display, and in his collection were some fine bunches. D. W. Coit, of Norwich, Conn., had some of the largest bunches on exhibition, one bunch of Syr-

ian weighing four pounds twelve and a half ounces, and a bunch of Palestine, four pounds two and one quarter ounces.

May 22d, Dr. Mason exhibited a very interesting collection of fruit from Col. Dinsmore, Santa Barbara, Cal., comprising lemons, figs, and a citron; May 1st, John Fisk Allen brought a very fine dish of oranges; July 17th, Mrs. J. C. Keating, a dish of the black mulberry; August 7th, E. S. Rand, Jr., a fruiting plant of *Ananassa sativa variegata* (the variegated leaved pine apple), with very beautiful foliage, and fruit of good size and well ripened; August 28th, J. W. Clark and J. C. Hovey, specimens of *Podophyllum peltatum* (mandrake).

At the Annual Exhibition, there were of pears, eight collections of twenty varieties; six of fifteen; eight of ten; ten of five; and of single dishes of Bartlett, nineteen; Seckel, twelve; Sheldon, nine; Beurre d'Anjou and Louise Bonne of Jersey, eight each; Beurre Diel, Belle Lucrative, Beurre Bosc, and Beurre Hardy, seven each; Duchesse, Doyenne Boussock and Winter Nelis, six each; Merriam, Flemish Beauty, Urbaniste, Howell, Beurre Clairgeau, Swan's Orange, and Lawrence, five each; Dana's Hovey, Marie Louise, Paradis d'Automne, and Doyenne du Comice, three each, and Beurre Superfin, two; making, including the collections, six hundred and seventy-nine dishes of pears. There were one hundred and seventy dishes of apples; fifty-four of foreign grapes; ninety-eight of native grapes; forty of peaches; nine of orchard-house peaches; three of nectarines; fifteen of plums, and twenty-three of seedling grapes, comprising in all, one thousand and ninety-one dishes of all varieties of fruit on exhibition. No collections of new fruits were offered for any of the premiums.

Premiums and gratuities have been awarded to one hundred and forty different persons. The annexed list of awards shows the amount of prizes to be $1,290; gratuities, $605; leaving an unexpended balance of $205. The amount of awards exceeds that of last year by $138.

All of which is respectfully submitted.

HERVEY DAVIS,
P. B. HOVEY,
JOHN B. MOORE,
BENJ. G. SMITH,
ALEX. DICKINSON,
D. T. CURTIS.
} *Fruit Committee.*

PRIZES AND GRATUITIES AWARDED FOR FRUITS.

January 24.

Winter Pears.—For the best collection of Winter Pears, the second prize to J. H. Fenno, . . $5 00

Gratuity:—

To J. H. Fenno, for Pears, ... 2 00

March 13.

Gratuity:—

To E. A. Hall, for Winter Nelis Pears, ... 2 00

March 20.

Gratuity:—

To John C. Whitin, for forced Strawberries, . . . 2 00

March 27.

Gratuity:—

To J. H. Fenno, for very fine Josephine de Malines Pears, 2 00

April 3.

Gratuities:—

To R. Oldreive, for Triomphe de Gand Strawberries, . 1 00
A. Dickinson, for Easter Beurre Pears, . . . 2 00
Mrs. C. N. S. Horner, for Roxbury Russet Apples, . 1 00

April 10.

Gratuity:—

To J. W. Talbot, for Black Oxford Apples, . . . 1 00

April 17.

Gratuities:—

To G. N. Noyes, for Hubbardston Apples, . . . 1 00
To F. & L. Clapp, for Seedling Pears, . . . 2 00

APRIL 24.

Gratuity:—

To Franklin Cumins, for Roxbury Russet Apples, . $1 00

MAY 1.

Gratuity:—

To Edwin Fletcher, for Greening Apples, . . . 1 00
John Fisk Allen, for very fine Oranges, . . . 3 00

MAY 22.

Gratuity:—

To Dr. Mason, for a collection of California Fruits, . 2 00

JUNE 5.

Gratuity:—

To Charles Garfield, for Strawberries, ... 2 00

JUNE 12.

Gratuity:—

To Charles Garfield, for two Baskets of Strawberries, . 5 00

JUNE 19.

Gratuity:—

To Marshall P. Wilder, for President Wilder Strawberries, ... 2 00

JUNE 19.

Gratuities:—

To J. H. Woodford, for extra fine President Wilder Strawberries, ... 3 00
J. H. Fenno, for Boston Pine Strawberries, . . 1 00
Charles Garfield, for Strawberries, ... 3 00
William C. Childs, for Strawberries, . . . 2 00
John B. Moore, for four baskets of Strawberries, . 5 00

JUNE 26.

Gratuities:—

To J. H. Woodford, for President Wilder Strawberries, 2 00
J. H. Fenno, for collection of Strawberries, . . 2 00
B. G. Smith " " " . . . 2 00

ROSE SHOW.

June 28.

Early Strawberries.—For the best four quarts, to John B. Moore, for Grace,	$10 00
For the second best, to Warren Heustis, for Col. Cheney,	8 00
For the third best, to B. G. Smith, for Lady of the Lake,	6 00
For the best two quarts, to J. B. Moore, for Augusta,	5 00
For the second best, to Charles Garfield, for Fillmore,	4 00
For the third best, to Warren Heustis, for Nicanor,	3 00

June 28.

Foreign Grapes.—For the best three varieties to H. S. Mansfield, for Black Hamburg, Cannon Hall Muscat, and Bowood Muscat,	10 00
For the best two bunches of any variety, to H. S. Mansfield, for Grizzly Frontignan,	5 00
For the second best, to H. S. Mansfield, for White Frontignan,	4 00
For the third best, to H. S. Mansfield, for Black Prince,	3 00
Gratuities:—	
To Charles Garfield, for Strawberries,	4 00
B. G. Smith, " "	3 00
W. G. Prescott, " "	2 00
Marshall P. Wilder, " "	2 00
Wm. C. Childs, " "	2 00
Augustus Parker, " "	2 00
John B. Moore, for collection of Strawberries,	6 00
C. G. Grant, for Cherries,	2 00

STRAWBERRY SHOW.

July 2.

Strawberries.—For the best four quarts of any variety, to Hovey & Co., for Hovey's Seedling,	$15 00

For the second best, to John B. Moore, for Jucunda, $10 00
For the third best, to Warren Heustis, for Col. Cheney, ... 5 00
For the best two varieties, four quarts each, to John B. Moore, for Grace and Hovey's Seedling, . 20 00
For the second best, to B. G. Smith, for President Wilder and Jucunda, ... 15 00
For the third best, to Warren Heustis, for Charles Downing and Jucunda, ... 10 00
For the best four varieties, two quarts each, to John B. Moore, for Champion, Late Prolific, President Wilder, and Triomphe de Gand, ... 15 00
For the second best, to Charles Garfield, for Jucunda, Fillmore, President Wilder, and Triomphe de Gand, ... 10 00
For the third best, to B. G. Smith, for Charles Downing, Triomphe de Gand, Hovey's Seedling, and Lady of the Lake, ... 5 00
For the best collection, not less than six varieties, to B. M. Watson, (twenty-one varieties) . . . 10 00
For the second best, to J. H. Fenno, (six varieties) 8 00
For the best fifty berries, to Warren Heustis, for Col. Cheney, ... 5 00
For the second best, to W. C. Child, for Jucunda, 3 00
For the best two quarts of Agriculturist, to John B. Moore, ... 4 00
For the best Hovey's Seedling, to Hovey & Co., . 4 00
For the best Jucunda, to John B. Moore, . . . 4 00
For the best La Constante, to Hovey & Co., . . 4 00
For the best President Wilder, to W. G. Prescott, . 4 00
For the best Triomphe de Gand, to John B. Moore, . 4 00
For the best Lady of the Lake, to Hovey & Co., . 4 00
For the best Wilson, to James Comley, . . . 4 00
For the best Seth Boyden (No. 30), to James Comley, 4 00
For the best Charles Downing, to John B. Moore, . 4 00
For the best Late Prolific, to Hovey & Co., . . 4 00
For the best Champion, to Hovey & Co., . . . 4 00
For the best two quarts of any other variety, to John B. Moore, for Caroline, ... 4 00

Cherries.—For the best four varieties to C. E. Grant,

for Knight's Early Black, Black Tartarian, Black Heart, and Black Eagle, ... $6 00

For the best two quarts of any variety, to F. R. Shattuck, for Black Tartarian, ... 4 00

For the second best, to I. P. Langworthy, for Knight's Early Black, ... 3 00

For the third best, to B. B. Davis, for Elton, . . 2 00

Gratuities:—

To Marshall P. Wilder, for Strawberries, . . . 2 00

W. G. Prescott, " " 3 00

G. W. Pierce, " " 2 00

B. G. Smith, " " 1 00

George N. Noyes, " " 1 00

C. E. Grant, " " 1 00

G. F. Stone, " " 2 00

J. R. Fisher, " " 1 00

Horace Eaton, " " 1 00

Horace Partridge, for Cherries, ... 2 00

JULY 3.

Gratuity:

To J. Fisk Allen, for Oranges and Lemons, . . . 2 00

JULY 10.

CHERRIES.—For the best two quarts, to Phineas J. Stone, for Black Tartarian, ... 4 00

For the second best, to T. M. Davis, for Black Tartarian, ... 3 00

For the third best, to C. E. Grant, for Black Eagle, 2 00

RASPBERRIES.—To B. G. Smith, the second prize for two quarts, for Franconia, ... 3 00

To J. H. Fenno, the third prize, for American Black Cap, ... 2 00

Gratuities:—

To George N. Noyes, for Strawberries, ... 2 00

Hovey & Co., " " 2 00

E. B. Richardson, " " 1 00

J. H. Fenno, " " 1 00

B. G. Smith, for Jucunda Strawberries, . . . 2 00

To Charles Garfield, for Strawberries and Currants, . $2 00
G. M. Mellen, for Currants, ... 1 00

JULY 17.

CURRANTS.—For the best four quarts of Red Currants, to B. G. Smith, for Versaillaise, ... 4 00
For the second best, to Amos Bates, for Versaillaise, 3 00
For the third best, to J. H. Fenno, for Versaillaise, 2 00
For the best four quarts of White Currants, to Horace Eaton, for Dana's Transparent, ... 3 00
For the second best, to B. G. Smith, for Dana's Transparent, ... 2 00
RASPBERRIES.—For the best two quarts, to William G. Prescott, for Franconia, ... 4 00
For the second best, to Charles Garfield, for Franconia, ... 3 00

Gratuities:—

To Horace Partridge, for Cherries, ... 1 00
W. G. Prescott, " " 1 00
J. E. M. Gilley, " " 3 00
J. H. Fenno, for collection of Cherries, Raspberries, and Gooseberries, ... 3 00
Samuel Hartwell, for Cherries and Currants, . . 1 00
B. B. Davis, for Gooseberries and Cherries, . . 2 00
W. C. Child, for Raspberries, ... 1 00
B. G. Smith, for Yellow Black Caps, . . . 1 00
Mrs. E. M. Gill, for Raspberries, Currants, and Gooseberries, ... 2 00
G. M. Mellen, for Raspberries, Currants, and Gooseberries, ... 2 00
Warren Heustis, for Currants, ... 2 00
W. K. Wood, " " 2 00
Horace Eaton, for Gooseberries, ... 1 00
J. H. Woodford, for Currants and Gooseberries, . 3 00
C. W. Chamberlain, for Pears, Gooseberries, and Currants, ... 2 00
C. D. Kingman, for forced Peaches, ... 2 00
Mrs. J. C. Keating, for Black Mulberries, . . 1 00

JULY 24.

CURRANTS.—For the best collection, to B. G. Smith, for Versaillaise, Transparent, Dana's New White, and Black Naples,	$5 00
For the second best, to J. H. Fenno, for Transparent, White Grape, Cherry, Red Dutch, and Versaillaise,	3 00
For the best four quarts, to Mrs. E. M. Gill, for Versaillaise,	4 00
For the second best, to B. G. Smith, for Versaillaise,	3 00
For the third best, to Amos Bates, " "	2 00

Gratuities:—

To Warren Heustis, for Doyenne d'Ete Pears,	1 00
J. E. M. Gilley, " " " "	1 00
J. H. Fenno, for collection of Pears, Cherries, Raspberries, and Currants,	4 00
C. E. Grant, for Currants,	1 00
Jacob Todd, " "	1 00
Warren Heustis, for Versaillaise Currants,	2 00
Amos Bates, for collection of Currants,	2 00
Charles Garfield, for Currants and Raspberries,	3 00
John B. Moore, for collection of Raspberries—Clarke, Hornet, Saunders, and Herstine,	5 00
Miss M. B. Tobey, for Raspberries,	1 00
Mrs. E. M. Gill, " "	1 00
J. H. Fenno, for Seedling Cherry (Norfolk),	3 00
G. M. Mellen, for Cherries, Currants, Gooseberries, and Raspberries,	2 00

JULY 31.

GOOSEBERRIES.—For the best two quarts of Native Gooseberries, to B. G. Smith, for Smith's Seedling,	3 00
For the second best, to B. G. Smith, for Downing's Seedling,	2 00
For the best two quarts of Foreign Gooseberries, to B. G. Smith, for Bang-up,	3 00
For the second best, to J. H. Fenno, for Whitesmith,	2 00
BLACKBERRIES.—For the best two quarts of Blackberries, to B. B. Davis, for Dorchester,	5 00

For the second best, to B. G. Smith, for Dorchester, $4 00

Pears.—For the best dish, to J. H. Fenno, for Doyenne d'Ete, ... 4 00

For the second best, to J. E. M. Gilley, for Doyenne d'Ete, ... 3 00

For the third best, to J. H. Fenno, for Beurre Giffard, ... 2 00

Gratuities:—

To George N. Noyes, for Gooseberries, ... 1 00

Amos Bates, for Currants and Gooseberries, . . 3 00

Robert Manning, for Petit Muscat Pears, . . 1 00

Warren Heustis, for Doyenne d'Ete Pears, . . 1 00

Joseph H. Fenno, for collection of Fruit, . . . 2 00

Charles Garfield, " " " " . . . 2 00

Mrs. E. M. Gill, " " " " . . . 2 00

August 7.

Pears.—To J. H. Fenno, the second prize, for collection, 8 00

For the best single dish, to W. S. Janvrin, for Beurre Giffard, ... 4 00

For the second best, to J. H. Fenno, for Beurre Giffard, ... 3 00

For the third best, to B. B. Davis, for Beurre Giffard, ... 2 00

Apples.—For the best dish, to B. B. Davis, for Sweet Bough, ... 4 00

For the second best, to Charles F. Curtis, for Williams, ... 3 00

For the third best, to J. H. Fenno, for Sweet Bough, 2 00

Gratuities:—

To Hovey & Co., for collection of Pears, . . . 4 00

Warren Heustis, for Pears, ... 1 00

C. W. Chamberlain, for Beurre Giffard Pears, . . 1 00

J. H. Fenno, for Pears and Raspberries, . . . 2 00

G. M. Mellen for Blackberries, ... 2 00

B. B. Davis, " " . , . . . 1 00

B. G. Smith, " " 2 00

E. S. Rand, Jr., for Pineapple (*Ananassa sativa variegata*), ... 3 00

To Charles Garfield, for Raspberries, ... $1 00
J. E. M. Gilley, for Apples, ... 2 00
Josiah Newhall, for Roxbury Russet Apples, raised in 1874, ... 1 00

AUGUST 14.

APPLES.—For the best collection of Early Apples, the second prize, to J. H. Fenno, ... 8 00
For the best Sweet Bough, to B. B. Davis, . . 3 00
For the best Red Astrachan, to Warren Heustis, . 3 00
For the best Williams, to T. M. Davis, . . . 3 00
For the best of any other variety, to T. M. Davis, for Summer Harvey, ... 3 00
PEARS.—For the best dish of Pears, to J. C. Park, for Beurre Giffard, ... 4 00
For the second best, to Charles Bird, for Beurre Giffard, ... 3 00
For the third best, to J. H. Fenno, for Beurre Giffard. 2 00

Gratuities:—

To A. S. M'Intosh, for Dorchester Blackberries, . . 1 00
G. M. Mellen, " " " . . 1 00
G. F. Waters, for Blackberries and Pears, . . 2 00
Charles Bird, for Pears, ... 1 00
C. W. Chamberlain, for Clapp's Favorite Pears, . 1 00
J. H. Fenno, " " " " . 1 00
Mrs. E. M. Gill, " " " " . 1 00
Hovey & Co., " " " " . 1 00
Warren Heustis, for Pears and Apples, . . . 1 00
B. G. Smith, for Foreign Gooseberries, . . . 2 00
J. Cruickshanks, for Moorpark Apricots, . . . 2 00

AUGUST 21.

PLUMS.—For the best dish, to J. H. Fenno, for Washington, ... 4 00
PEARS.—For the best Clapp's Favorite, to F. & L. Clapp, ... 4 00
For the second best, to Mrs. E. M. Gill, . . . 3 00
For the third best, to Charles F. Curtis, . . . 2 00

For the best dish of any other variety, to Horace Eaton, for Rostiezer, ... $4 00
For the second best, to J. C. Park, for Beurre Giffard, ... 3 00
For the third best, to J. McClure, for Rostiezer, . 2 00
PEACHES.—For the best dish, to John Falconer, for Princess of Wales, ... 5 00
FIGS.—For the best dish, to Mrs. Benjamin Fobes, . 3 00

Gratuities:—

To C. W. Chamberlain, for Pears, ... 1 00
M. W. Chadbourne, for Rostiezer Pears, ... 1 00
George N. Noyes, for Clapp's Favorite Pears, . . 1 00
C. E. Grant, " " " " . . 1 00
Hovey & Co., for collection of Pears, . . . 1 00
Charles F. Curtis, for Williams Apples, . . . 1 00
Asa Clement, " " " . . . 1 00
Warren Heustis, " " " . . . 1 00
Lewis Slack, " " " . . . 1 00
J. H. Fenno, for Apples and Pears, . . . 2 00
John Falconer, for Nectarines, Peaches, and Pears, of orchard-house culture, ... 4 00
John B. Moore, for collection of Fruit, . . . 2 00
G. M. Mellen, " " " " . . . 1 00
J. Cruickshanks, for Moorpark Apricots, . . . 1 00
D. F. Hayes, for Delaware Grapes, ... 1 00

AUGUST 28.

PEARS.—For the best collection, of not less than five varieties, to C. F. Curtis, ... 8 00
For the second best, to J. H. Fenno, . . . 5 00
For the third best, to Hovey & Co., . . . 4 00
For the best Bartlett, to C. F. Curtis, . . . 4 00
For the second best, to Charles Bird, . . . 3 00
For the third best, to Hovey & Co., . . . 2 00
PEACHES.—To J. B. Moore, the third prize, for Yellow and Red Rareripe, ... 3 00
To C. E. Grant, the fourth prize, for Early Crawford, 2 00

Gratuities:—

To J. C. Park, for Tyson Pears,	$1 00
J. A. Morton, for Clapp's Favorite Pears,	1 00
C. E. Grant, " " " "	1 00
J. McClure, for Rostiezer Pears,	2 00
B. G. Smith, for collection of Pears,	2 00
Mrs. E. M. Gill, for Pears,	2 00
D. N. Stowers, " "	1 00
Amos Bates, for collection of Pears and Plums,	3 00
J. T. Foster, for Seedling Peaches,	3 00
J. E. M. Gilley, for Peaches,	1 00
J. H. Fenno, for collection of Fruit,	4 00
G. M. Mellen, " " "	2 00
G. F. Waters, for Blackberries and Pears,	3 00
J. W. Clark, for *Podophyllum peltatum*, (Mandrake),	1 00
J. C. Hovey, " " " "	1 00

SEPTEMBER 4.

NATIVE GRAPES.—For the best dish, to John B. Moore, for Moore's Early,	5 00
APPLES.—For the best dish, to J. H. Fenno, for Gravenstein,	5 00
For the second best, to G. M. Mellen, for Gravenstein,	4 00
For the third best, to G. M. Mellen, for Porter,	3 00
For the fourth best, to Samuel Hartwell, for Porter,	2 00
PEARS.—For the best dish, to F. & L. Clapp, for Clapp's Favorite,	5 00
For the second best, to A. S. M'Intosh, for Tyson,	4 00
For the third best, to J. C. Park, for Clapp's Favorite,	3 00
For the fourth best, to Charles Bird, for Bartlett,	2 00

Gratuities:—

To A. S. M'Intosh, for Tyson Pears,	1 00
Robert Manning, " " "	1 00
John Fillebrown, for Pears,	1 00
J. McClure, " "	1 00
J. Cruickshanks, " "	1 00
Samuel Hartwell, for Pears and Apples,	2 00

To Mrs. S. Joyce, for Pears and Figs, ... $1 00
J. T. Foster, for Seedling Peach (Laura), . . 1 00
C. E. Grant, for Peaches and Pears, . . . 2 00
B. G. Smith, for Chasselas Grapes, ... 2 00
Horace Partridge, for Grapes, ... 1 00
C. D. Kingman, for Grapes and Peaches, orchard-house culture, ... 3 00
Mrs. Draper, for Plums, ... 1 00
Mrs. Benjamin Fobes, for Figs, ... 1 00

SEPTEMBER 11.

APPLES.—For the best dish, to J. H. Fenno, for Gravenstein, ... 5 00
For the second best, to Samuel Hartwell, for Gravenstein, ... 4 00
For the third best, to G. M. Mellen, for Porter, . 3 00
For the fourth best, to G. M. Mellen, for Gravenstein, 2 00
PEARS.—For the best dish, to John Fillebrown, for Clapp's Favorite, ... 5 00
For the second best, to A. S. M'Intosh, for Bartlett, 4 00
For the third best, to J. C. Park, for Bartlett, . . 3 00
For the fourth best, to C. E. Grant, for Andrews, . 2 00
PEACHES.—For the best dish, to J. T. Foster, for Foster's Seedling, ... 5 00
For the second best, to J. B. Moore, for Early Crawford, ... 4 00
For the third best, to Samuel Hartwell, for Early Crawford, ... 3 00
For the fourth best, to C. E. Grant, for Early Crawford, ... 2 00
NATIVE GRAPES.—For the best dish of Early Grapes, to John B. Moore, for Moore's Early, . . . 5 00
For the second best, to John B. Moore, for Hartford, 4 00
For the third best, to Charles Garfield, for Creveling, 3 00
For the fourth best, to B. B. Davis, for Hartford, 2 00

Gratuities:—

To M. W. Chadbourne, for Pears, ... 1 00
Mrs. Draper, for Pears, ... 1 00
George N. Noyes, for collection of Pears, . . 2 00

To J. H. Fenno, for Apples and Peaches, . . .	$2 00
J. E. M. Gilley, for Peaches, ...	1 00
C. D. Kingman, for Grapes and Peaches, . . .	3 00
C. E. Grant, " " " " . . .	2 00
Josiah Pratt, for Plums, ...	1 00
J. Fisk Allen, for Seedling Grapes and Nectarines, .	2 00
G. H. Meacham, for collection of Fruit, . . .	2 00
G. M. Mellen, " " " " . . .	1 00
N. B. White, " " " " . . .	1 00
Josiah Newhall, " " " " . . .	2 00

ANNUAL EXHIBITION.

September 21, 22, and 23.

Apples.—For the best twenty varieties, to F. & L. Clapp, ...	$25 00
For the second best, to J. H. Fenno, . . .	20 00
For the third best, to Moses Taylor, . . .	15 00
For the best fifteen varieties, to Wm. T. Hall, . .	15 00
For the best ten varieties, the third prize to Samuel Hartwell, ...	6 00
For the best five varieties, to S. N. Gaut, . . .	6 00
For the second best, to William A. Crafts, . .	5 00
For the best Baldwin, to Walter Russell, . . .	3 00
For the second best, to George Hill, . . .	2 00
For the best Gravenstein, to F. & L. Clapp, . .	3 00
For the second best, to William T. Hall, . .	2 00
For the best Hubbardston, to Walter Russell, . .	3 00
For the second best, to G. M. Mellen, . . .	2 00
For the best Northern Spy, to William T. Hall, . .	3 00
For the second best, to J. H. Fenno, . . .	2 00
For the best Porter, to George Hill, ...	3 00
For the second best, to George W. Pierce, . .	2 00
For the best Rhode Island Greening, to J. E. M. Gilley,	3 00
For the second best, to J. H. Fenno, . . .	2 00
For the best Roxbury Russet, to J. L. Bird, . .	3 00
For the second best, to William A. Crafts, . .	2 00
For the best Hunt Russet, to Moses Taylor, . .	3 00
For the second best, to John B. Moore, . . .	2 00

For the best Washington Strawberry, to John C. Park, $3 00
For the second best, to J. H. Fenno, . . . 2 00
For the best King of Tompkins County, to F. & L. Clapp, ... 3 00
For the best Sweet Apples, to J. H. Fenno, for Danvers Winter Sweet, ... 3 00
For the second best, to Samuel Pratt, for Danvers Winter Sweet, ... 2 00
Pears.—For the best twenty varieties, to Hovey & Co., 25 00
For the second best, to A. Dickinson, . . . 20 00
For the third best, to J. H. Fenno, . . . 15 00
For the fourth best, to J. C. Park, ... 10 00
For the best fifteen varieties, to John L. DeWolf, . 15 00
For the second best, to W. S. Janvrin, . . . 12 00
For the third best, to Charles Bird, . . . 10 00
For the fourth best, to J. L. Bird, ... 8 00
For the best ten varieties, to C. E. Richardson, . . 10 00
For the second best, to Jesse Haley, . . . 8 00
For the third best, to Joseph Cooledge, . . . 6 00
For the fourth best, to William T. Hall, . . . 4 00
For the best five varieties, to John McClure, . . 6 00
For the second best, to C. F. Curtis, . . . 5 00
For the third best, to George S. Curtis, . . . 4 00
For the fourth best, to Augustus Parker, . . 3 00
For the best Bartlett, to John McClure, . . . 3 00
For the second best, to William R. Austin, . . 2 00
For the best Belle Lucrative, to Mrs. H. P. Kendrick, 3 00
For the second best, to Horace Eaton, . . . 2 00
For the best Beurre d'Anjou, to William R. Austin, . 3 00
For the second best, to Mrs. H. P. Kendrick, . . 2 00
For the best Beurre Bosc, to George S. Curtis, . . 3 00
For the second best, to Augustus Parker, . . 2 00
For the best Beurre Hardy, to C. W. Chamberlain, . 3 00
For the second best, to C. F. Curtis, . . . 2 00
For the best Beurre Superfin, to T. M. Davis, . . 3 00
For the second best, to J. H. Fenno, . . . 2 00
For the best Dana's Hovey, to Hovey & Co., . . 3 00
For the second best, to Charles Bird, . . . 2 00
For the best Beurre Clairgeau, to John Fillebrown, . 3 00
For the second best, to C. F. Curtis, . . . 2 00

For the best Doyenne du Comice, to William Maloon,	$3 00
For the second best, to W. S. Janvrin, . . .	2 00
For the best Duchesse d'Angouleme, to Mrs. H. P. Kendrick, ...	3 00
For the second best, to John McClure, . . .	2 00
For the best Doyenne Boussock, to Jacob Todd, .	3 00
For the second best, to Joshua Cooledge, . .	2 00
For the best Howell, to Jesse Haley, ...	3 00
For the second best, to Mrs. H. P. Kendrick, . .	2 00
For the best Lawrence, to John McClure, . . .	3 00
For the second best, to William P. Walker, . .	2 00
For the best Louise Bonne of Jersey, to Wm. J. Griggs,	3 00
For the second best, to Mrs. H. P. Kendrick, .	2 00
For the best Marie Louise, to C. W. Chamberlain, .	3 00
For the second best, to Hovey & Co., . . .	2 00
For the best Merriam, to A. S. M'Intosh, . . .	3 00
For the second best, to C. F. Curtis, . . .	2 00
For the best Beurre Diel, to William P. Walker, .	3 00
For the second best, to T. M. Davis, . .	2 00
For the best Paradis d'Automne, to John L. Bird, .	3 00
For the second best, to Hovey & Co., . . .	2 00
For the best Seckel, to Mrs. H. P. Kendrick, . .	3 00
For the second best, to C. W. Chamberlain, . .	2 00
For the best Sheldon, to John McClure, . . .	3 00
For the second best, to C. F. Curtis, . . .	2 00
For the best Swan's Orange, to Mrs. H. P. Kendrick,	3 00
For the second best, to John McClure, . . .	2 00
For the best Urbaniste, to R. W. Ames, . . .	3 00
For the second best, to Hovey & Co., . . .	2 00
For the best Winter Nelis, to John L. Bird, . .	3 00
For the second best, to William P. Walker, . .	2 00
For the best Flemish Beauty, to William P. Walker, .	3 00
For the second best, to J. H. Fenno, . . .	2 00
PEACHES.—For the best collection, the third prize, to John B. Moore, ...	6 00
Fourth prize, to Samuel Hartwell, ...	4 00
For the best single dish, to A. Dickinson, for Early Crawford, ...	4 00
For the second best, to J. T. Foster, for Foster's Seedling, ...	3 00

For the third best, to John L. Bird, for Early Crawford,	$2 00
Plums.—For the best collection, to Elijah Low, Bangor, Maine,	5 00
For the best single dish, to Horace Eaton, for Coe's Golden Drop,	3 00
Foreign Grapes.—For the best six varieties, to George B. Durfee,	12 00
For the second best, to E. S. Rand, Jr.,	10 00
For the third best, to B. G. Smith,	8 00
For the best four varieties, to E. W. Wood,	8 00
Third prize, to Horace Partridge,	4 00
For the best three varieties, to George Higginson,	6 00
Fourth prize, to Horace Partridge,	3 00
For the best two varieties, to George Higginson,	5 00
Fourth prize, to C. E. Grant,	2 00
Native Grapes.—For the best ten varieties, to Horace Eaton,	15 00
For the best five varieties, to John B. Moore,	8 00
For the second best, to B. B. Davis,	6 00
For the best Concord, to John B. Moore,	3 00
For the second best, to W. P. Walker,	2 00
For the best Creveling, to Horace Eaton,	3 00
For the second best, to J. C. Park,	2 00
For the best Delaware, to F. & L. Clapp,	3 00
For the second best, to C. E. Grant,	2 00
For the best Diana, to Horace Partridge,	3 00
For the best Hartford, to John B. Moore,	3 00
For the second best, to Horace Eaton,	2 00
For the best Isabella, to J. P. Wellington,	3 00
For the best Israella, to Horace Eaton,	3 00
For the best Massasoit, to Horace Eaton,	3 00
For the best Salem, to Horace Eaton,	3 00
For the best Wilder (No. 4), to John B. Moore,	3 00
For the best of any other variety, to John B. Moore, for Moore's Early,	3 00
For the second best, to Horace Eaton, for Agawam (No. 15),	2 00
Gratuities for Apples:—	
To Samuel Pratt, for collection,	2 00

To Joseph Bird, for Baldwin,	$1 00
J. C. Park,	2 00
David B. Flint,	1 00
D. M. Stowers,	2 00
Isaiah F. Arnold, for Crab Apples,	1 00

Gratuities for Pears:—

To James Cruickshanks, for collection,	5 00
J. H. Fenno, " "	5 00
A. T. Brown, " "	4 00
C. N. Brackett, " "	4 00
C. E. Grant, " "	4 00
John B. Moore, " "	4 00
J. E. M. Gilley, " "	3 00
D. B. Flint, " "	3 00
Horace Partridge, " "	3 00
Joseph Bird, " "	3 00
Geo. W. Ireland, " "	3 00
Hovey & Co., " "	2 00
T. M. Davis, " "	2 00
Charles Bird, " "	2 00
G. M. Mellen,	1 00
Lucinda Harris,	1 00
Mason Davis,	1 00
Mrs. Draper,	1 00
Wm. C. Child,	1 00
Samuel Pratt,	1 00
B. F. Hurd,	1 00
John McClure,	1 00
Marshall P. Wilder,	1 00
Mrs. C. D. Hancock,	1 00
S. N. Gaut,	1 00
Joshua Cooledge,	1 00
Horace Eaton,	1 00
W. R. Austin,	1 00
John C. Appleton,	1 00

Gratuities for Foreign Grapes:—

To D. W. Coit, Norwich, Conn., for a fine collection	8 00
Elijah H. Luke, " " "	8 00
George Higginson,	2 00

To B. G. Smith,	$2 00
Augustus Parker, for Victoria Hamburg Grapes,	2 00

Gratuities for Native Grapes:—

To Miss A. C. Wheeler,	1 00
Samuel Pratt,	1 00
Wm. C. Child,	1 00
J. C. Park,	1 00
C. E. Grant,	1 00
J. H. Fenno,	2 00
A. T. Brown,	2 00
Joseph L. Bird,	1 00
Mrs. E. M. Gill,	2 00
N. B. White, for Norwood Muscat Grapes,	2 00
C. C. Pringle, for Seedling Grapes,	2 00

Gratuities for Peaches, Plums, etc.:—

To John Falconer, for a very fine collection of Peaches, orchard-house culture,	10 00
J. H. Fenno, for Seedling Peach,	1 00
Samuel Hartwell, for Early Crawford Peaches,	3 00
J. E. M. Gilley, for collection of Peaches,	2 00
Miss A. C. Wheeler, for Peaches,	1 00
Parker Barnes, " "	1 00
Japhet Sherman, " "	1 00
John B. Moore, " "	1 00
C. E. Grant, " "	1 00
Wm. C. Child, " "	2 00
Miss Annie M. Low, for Plums,	1 00
James MacMahon, " "	1 00
Mrs. Draper, " "	1 00
John Fisk Allen, for Figs,	1 00
Josiah Newhall, " "	1 00
G. F. Waters, for Kittatinny Blackberries,	2 00
John Fisk Allen, for Seedling Nectarine,	2 00
John Falconer, for a very fine collection of Plums and Nectarines, orchard-house culture,	5 00
Mrs. J. E. M. Gilley, for two Baskets of Fruit,	2 00
Miss A. C. Wheeler, for Basket of Fruit,	2 00
Mrs. C. B. Chase, " " " "	2 00
James Cruickshanks, " " " "	1 00

October 2.

Native Grapes.—For the best six bunches, to E. P. Richardson, for Concord,	$4 00
For the second best, to J. H. Fenno, for Delaware,	3 00
For the third best, to C. E. Grant, for Delaware,	2 00
Foreign Grapes.—For the best three varieties, to C. M. Atkinson,	5 00
For the second best, to E. W. Wood,	4 00
For the best two bunches, to E. W. Wood, for Black Hamburg,	3 00
For the second best, to B. G. Smith, for Lady Downes,	2 00

Gratuities:—

To William C. Child, for Peaches,	3 00
C. E. Grant, " "	1 00
J. H. Fenno, " "	3 00
James Molloy, " "	2 00
C. E. Grant, for Catawba Grapes,	3 00
J. V. Wellington, for a very fine Isabella Grapes,	2 00
Miss A. C. Wheeler, for Grapes,	2 00
Horace Partridge, for collection of Foreign Grapes and Peaches,	3 00
J. S. Whitney, for a very fine collection of Pears,	6 00
F. & L. Clapp, for Seedling Pears,	3 00

October 9.

Autumn Pears.—For the best ten varieties, to Hovey & Co.,	10 00
For the second best, to J. H. Fenno,	5 00
For the third best, to C. E. Grant,	6 00
For the best five varieties, to John McClure,	6 00
For the second best, to W. S. Janvrin,	5 00
For the third best, to Charles Bird,	4 00
For the fourth best, to J. L. Bird,	3 00
For the best single dish, to W. T. Andrews, for Beurre Bosc,	4 00
For the second best, to Eben Snow, for Sheldon,	3 00
For the third best, to G. M. Mellen, for Seckel,	2 00
Autumn Apples.—For the best five varieties, to J. H. Fenno,	6 00

For the second best, to W. T. Hall, . . . $5 00
For the best single dish, to J. H. Fenno, for Washington Strawberry, ... 4 00
For the second best, to J. H. Fenno, for Gravenstein, 3 00
For the third best, to J. H. Fenno, for Porter, . 2 00
Quinces.—For the best dish of Quinces, to W. S. Janvrin, for Orange, ... 3 00
For the second best, to C. E. Grant, for Orange, . 2 00

Gratuities:—

To Miss Susan E. Dow, for Seckel Pears, . . . 1 00
Joseph Gardner, for Beurre Diel Pears, . . . 1 00
C. H. Brackett, " " " " . . . 1 00
John Capen, for Lawrence Pears, ... 1 00
A. S. M'Intosh, for Beurre d'Anjou Pears, . . 1 00
Lewis Slack, for Pears, ... 3 00
Jacob Todd, " " 1 00
Mrs. Draper, " " 1 00
F. & L. Clapp, for Seedling Pears, ... 3 00
James Cruickshanks, for collection of Pears, . . 3 00
Hovey & Co., " " " " . . 3 00
Timothy Corey, " " " " . . 3 00
J. H. Fenno, " " " " . . 3 00
M. W. Chadbourne, for Apples, ... 1 00
Wm. T. Hall, " " 1 00
George W. Hale, " " 1 00
G. F. Waters, " " 1 00
J. T. Foster, " " 1 00
Wm. C. Child, for Peaches, ... 2 00
Eben Snow, " " 1 00
Josiah Newhall, " " 1 00
John B. Moore, " " 2 00
Mrs. S. Joyce, for Quinces, ... 1 00
Horace Partridge, for Pears, Grapes, and Peaches, . 4 00
J. H. Fenno, for Grapes and Peaches, . . . 2 00
Miss Mary Greenland, for Apples and Peaches, . 1 00
Mrs. E. M. Gill, for Grapes and Pears, . . . 3 00
G. M. Mellen, for Pears and Peaches, . . . 3 00
J. E. M. Gilley, for Apples and Quinces, . . . 1 00

October 16.

Gratuities: —

To A. J. Dean, for Rogers' Seedling Pear, . . . $1 00
Amos Bates, for British Queen Pear, . . . 1 00
G. M. Mellen, for Beurre Bosc, and a very fine dish of Seckel Pears, ... 3 00
B. G. Smith, for collection of Foreign Grapes, . . 3 00
Miss A. C. Wheeler, for Grapes and Pears, . . 2 00

October 23.

Gratuities:—

To C. E. Grant, for collection of Pears, . . . 2 00
E. C. Sparhawk, for Beurre Diel Pears, . . . 1 00
Rev. I. P. Langworthy, for Pears, ... 1 00

October 30.

Gratuities:—

To Lewis Slack, for collection of Pears, . . . 3 00
H. M. Young, for Beurre Diel Pears, . . . 1 00
G. M. Mellen, for Apples, ... 2 00
Mrs. C. N. S. Horner, for Apples and Pears, . . 1 00

November 6.

Winter Pears.—For the best five varieties, to Hovey & Co., ... 6 00
For the second best, to J. H. Fenno, . . . 5 00
For the third best, to John C. Park, . . . 4 00
For the fourth best, to John L. Bird, . . . 3 00
For the best single dish, to J. H. Fenno, for Beurre d'Anjou, ... 4 00
For the second best, to John L. Bird, for Winter Nelis, ... 3 00
For the third best, to J. McClure, for Lawrence, . 2 00
For the fourth best, to A. S. M'Intosh, for Dana's Hovey, ... 1 00
Winter Apples.—For the best ten varieties, to J. H. Fenno, the French Plate, valued at . . . 12 00
For the second best, to William T. Hall, the French Plate, valued at 9 00
For the best single dish, to Walter Russell, for Hubbardston, ... 4 00

For the second best, to William T. Hall, for Baldwin,	$3 00
For the third best, to Josiah Crosby, for Hubbardston,	2 00

Gratuities:—

To Daniel Cross, for Pears,	2 00
J. McClure, " "	1 00
Charles Bird, " "	1 00
A. J. Dean, " "	1 00
James Cruickshanks, for collection of Pears,	3 00
B. G. Smith, " " " "	2 00
C. E. Grant, " " " "	4 00
E. A. Hall, " " " "	2 00
J. H. Fenno, " " " "	3 00
G. M. Mellen, for Apples,	1 00
Moses Taylor, for collection of Apples,	5 00
Mrs. E. M. Gill, for Grapes,	2 00
Miss A. C. Wheeler, for Pears and Grapes,	2 00
Horace Partridge, " " " "	5 00

NOVEMBER 13.

Gratuity:—

To F. & L. Clapp, for Seedling Pears,	2 00

NOVEMBER 20.

Gratuities:—

To B. G. Smith, for a fine dish of Beurre Langelier Pears,	2 00
Miss A. C. Wheeler, for Beurre Diel Pears,	2 00
Hovey & Co., for a very fine dish of Dana's Hovey Pears,	2 00

NOVEMBER 27.

Gratuity:—

To J. H. Fenno, for a very fine dish of Mount Vernon Pears,	2 00

DECEMBER 4.

Gratuity:—

To Miss A. C. Wheeler, for fine Beurre d'Anjou Pears,	2 00

DECEMBER 18.

Gratuities:—

To J. W. Merrill, for very fine Glout Morceau Pears, .	$2 00
Robert Manning, for Pears, ...	2 00
F. & L. Clapp, for Seedling Pears, ...	2 00

The Society's Silver Medal, was awarded to Dr. Charles C. Hamilton, of Cornwallis, Nova Scotia, for a fine collection of Apples.

The amount awarded to each contributor is as follows:

Allen, John Fisk . .	$8	Cross, Daniel . .	$2
Ames, R. W. . .	3	Cruickshanks, James .	16
Andrews, W. T. . .	4	Cumins, Franklin .	1
Appleton, John C. .	1	Curtis, Charles F. .	31
Arnold, Isaiah F. .	1	Curtis, Geo. S. . .	7
Atkinson, C. M. . .	5	Davis, B. B. . .	27
Austin, W. R. . .	6	Davis, Mason . .	1
Barnes, Parker . .	1	Davis, T. M. . .	16
Bates, Amos . .	14	Dean, A. J. . . .	2
Bird, Charles . .	28	DeWolf, John L. . .	15
Bird, John L. . .	28	Dickinson, Alex. . .	26
Bird, Joseph . .	5	Dorr, Miss Susan .	1
Brackett C. N. . .	4	Draper, Mrs. . .	5
Brackett, C. H. . .	1	Durfee, Geo. B. . .	12
Brown, A. T. . .	6	Eaton, Horace . .	46
Capen, John . .	1	Falconer, John . .	24
Chadbourne, M. W. .	3	Fenno, J. H. . .	217
Chamberlain, C. W. .	13	Fillebrown, John . .	9
Chase, Mrs. C. B. .	2	Fisher, J. R. . .	1
Child, Wm. C. . . .	17	Fletcher, Edwin . .	1
Clapp, F. & L. . .	67	Flint, D. B. . . .	4
Clark, J. W. . .	1	Fobes, Mrs. B. . .	4
Clement, Asa . .	1	Foster, J. T. . .	13
Coit, D. W. . . .	8	Gardner, Joseph . .	1
Comley, James . .	8	Garfield, Charles . .	42
Cooledge, Joshua, .	9	Gill, Mrs. E. M. . .	22
Corey, Timothy . .	3	Gaut, S. N. . .	7
Crafts, Wm. A. . .	7	Gilley, J. E. M. . .	22
Crosby, Josiah . .	2	Gilley, Mrs. J. E. M. .	2

Grant, C. E.	$54	Noyes, G. N.	$8
Greenland, Miss Mary,	1	Oldreive, R.	1
Griggs, Wm. J.	3	Park, John C.	36
Haley, Jesse	11	Parker, Augustus	9
Hall, George W.	1	Partridge, Horace	30
Hall, E. A.	4	Pierce, G. W.	4
Hall, Wm. T.	42	Pratt, Josiah	1
Hancock, Mrs. C. D.	1	Pratt, Samuel	6
Harris, Lucinda	1	Prescott, Wm. G.	14
Hartwell, Samuel	25	Pringle, C. G.	2
Hayes, D. F.	1	Rand, E. S. Jr.	13
Heustis, Warren	43	Richardson, C. E.	10
Higginson, George	13	Richardson, E. P.	5
Hill, George	5	Russell, Walter	10
Horner, Mrs. C. N. S.	2	Shattuck, F. R.	4
Hovey & Co.	106	Sherman, Japhet	1
Hovey, J. C.	1	Slack, Lewis	7
Hunt, B. F.	1	Smith, B. G.	91
Ireland, Geo. W.	3	Snow, Eben	4
Janvrin, W. S.	26	Sparhawk, E. C.	1
Joyce, Mrs. S.	2	Stevens, George W.	2
Keating, J. C.	1	Stone, G. F.	2
Kendrick, Mrs. H. P.	18	Stone, Phineas J.	4
Kingman, C. D.	8	Stowers, D. W.	3
Langworthy, I. P.	4	Talbot, J. W.	1
Low, Miss Annie M.	1	Taylor, Moses	23
Low, Elijah	5	Tobey, Miss M. B.	1
Luke, Elijah H.	8	Todd, Jacob	5
Maloon, Wm.	3	Walker, Wm. P.	12
Manning, Robert	4	Waters, G. F.	8
Mansfield, H. S.	22	Watson, B. M.	10
Mason, Dr.	2	Wellington, J. V.	5
McClure, J.	34	Wheeler, Miss A. C.	14
McMahon, James	4	White, N. B.	3
Meacham, Giles H.	2	Whitin, John C.	2
Mellen, G. M.	41	Whitney, J. S.	6
Merrill, J. W.	2	Wilder, Marshall P.	7
M'Intosh, A. S.	15	Wood, E. W.	15
Molloy, James	2	Wood, W. K.	2
Moore, John B.	157	Woodford, J. H.	8
Morton, J. A.	1	Young, H. M.	1
Newhall, Josiah	5		

Amount of Appropriation		$2,100
Prizes awarded	$1,290	
Gratuities awarded	605	1,895
Balance not awarded		$205

REPORT

OF THE

COMMITTEE ON VEGETABLES,

FOR THE YEAR 1875.

By C. N. BRACKETT, Chairman.

The past year has, in many respects, been one of more than ordinary interest in this department of the Society. At the weekly exhibitions an encouraging degree of interest has been manifested throughout the season; our shows have been sustained with spirit and success, and have been considered superior, in some respects, to those of any previous year.

Competition for the prizes offered by the Society has been active throughout the year, and the efforts of cultivators have resulted in placing upon our tables products of their skill, which for beauty and quality are rarely equalled in the most favorable seasons.

Each year has its peculiarities, and the past has been no exception to the general rule. The extreme and long continued cold weather, experienced during the early portion of the year, operated unfavorably for our winter and early spring shows, so that from the commencement of the year, up to the Azalea Exhibition in April, the contributions of forced vegetables were made only in limited quantity.

During the month of January, Mrs. E. M. Gill and George F. Stone showed some very fair samples of Tennisball Lettuce, which were the only contributions offered throughout the month.

February 27th, S. W. Twombly & Son exhibited Dandelions. March 6th, S. H. Scott, very fine White Spine Cucumbers, the first of the season. March 20th and 27th, excellent specimens of Lettuce were shown by Josiah Crosby; Sea Kale and Rhubarb, by W. Gage, and specimens of Swiss Chard by C. M. Atkinson. April 3d, Walter Russell presented samples of Long Scarlet

Radishes and Tennisball Lettuce, which were the finest and best grown specimens shown up to that date. S. W. Twombly & Son also exhibited specimens of Jersey Hybrid Cucumbers.

The above includes all the exhibitions made in this department previous to the Azalea Exhibition, April 10th, at which time, owing to an unfavorable and very backward season, the show of forced vegetables was somewhat limited; such specimens as were presented, however, were considered superior, and maintained their accustomed standard of excellence.

On the 5th of June, occurred one of the largest and best of our weekly exhibitions during the year. The display of Asparagus by J. B. Moore, Walter Russell, and Samuel Hartwell, and the very fine collections of Lettuce, Radishes, Cucumbers, etc., by Messrs. Fillebrown, Chamberlain, Russell, Crosby, Marshall P. Wilder, and others, were worthy of special mention. Some remarkably fine specimens of Victoria Rhubarb were also shown by Alexander Dickinson. From this date throughout the season, and especially at the Annual Exhibition, the displays of the different varieties of vegetables were extensive and of excellent quality.

June 26th, C. D. Kingman showed specimens of the new potato, Alpha, introduced last year by B. K. Bliss & Sons, and described in our last report. It was also shown at the Annual Exhibition by the originator, C. G. Pringle, whose specimens were exceedingly fine, and considerably improved in size, as compared with the specimens shown last season.

At the Rose and Strawberry Shows, June 28th and July 2d, the exhibitions of Peas were unusually fine, and consisted of several varieties which were new. They were shown by Joseph Tailby, Charles Garfield, and W. C. Child. Those shown by Mr. Tailby were William 1st, Emerald Gem, and Carter's Extra Early Gem. The pods of the variety known as William 1st, were large, plump, and well filled; this variety was the earliest shown, and was exhibited by Mr. Tailby June 26th, and again at the Strawberry Show, when it was awarded the first prize for the best peck. The varieties shown by Mr. Garfield were McLean's Best of All, Duchess of Edinburgh, and Sutton's Giant Emerald, the last variety being particularly fine. Later in the season W. H. Spooner also exhibited the following collection: Laxton's Superlative, G. F. Wilson, Laxton's Fillbasket, and Omega.

Every year there are sent out a host of fancy varieties, many of

which are of delicious flavor, but generally only moderate bearers, and very high priced. Occasionally a really valuable acquisition is made, but in general new varieties should receive the cautious attention of the common cultivator, whose object is to obtain a profitable and certain crop.

June 24th, and on other occasions during the season, C. D. Kingman exhibited very handsome specimens of Hathaway's Excelsior Tomato, a medium sized, uniformly round, smooth variety, with fruit growing in clusters. Mr. Kingman informed your Committee, that after having tried many of the leading varieties, he considers this the best of all. Some of our best market gardeners, however, consider it to be too small for a profitable market variety, but, on account of its other excellent qualities, recommend it as a valuable variety for the amateur kitchen garden.

A new tomato was shown during the weekly exhibitions of the season, and also at the Annual Show, by John Fillebrown, called the Emery, which, after growing for the past two seasons, he considers a better and more profitable variety than the Boston Market. Your Committee were all favorably impressed with its appearance. It certainly possesses many remarkably excellent properties, and it will no doubt be thoroughly tested the coming season, in order to determine whether it can successfully compete with a variety so firmly established in the estimation of the public as the Boston Market, which has for a long period been the favorite with market gardeners in this vicinity. Mr. Fillebrown, who introduced the Emery, is an experienced cultivator, and a careful observer, and his recommendation may safely be considered as an assurance that we may hope for something of permanent value from this new and promising variety.

September 4th, N. B. White, of Norwood, Mass., exhibited specimens of a new seedling tomato originating with him, with fruit of a dull pink color, and foliage like the Keyes.

At the same exhibition, Benj. G. Smith presented fine specimens of Dreer's Improved Lima Bean. It is claimed for this variety, that its distinctive features are early maturity, productiveness, and extra quality. The specimens shown by Mr. Smith were exceedingly fine.

For much of the interest attending the weekly exhibitions, especially in the earlier part of the season, the Society is under

obligations to Josiah Crosby, Walter Russell, John Fillebrown, George W. Pierce, and George F. Stone, who have shown fine specimens of forced vegetables, in large quantities and great variety. Messrs. Garfield, Mellen, Child, and others who might be mentioned, have been large contributors, and have placed upon our tables, from time to time, many objects of superior quality. So numerous and excellent have been the specimens exhibited in competition for the prizes, that the Committee have in some instances been embarrassed in making their awards. On several occasions during the season, specimens have been presented so nearly equal in size, beauty, and quality, that the Committee found it not always an easy task to decide which were best. They have, however, in all cases strenuously endeavored to do exact justice to the different competitors in making their awards; and if they have, in any case, failed in this respect, they can only say that they have acted according to their best judgment, and have been unanimous in opinion. Your Committee regret that in one or two instances they have been obliged to disqualify otherwise worthy contributions (which would have received the first prize) for containing more than the number of specimens called for in the schedule. It was undoubtedly an oversight, but the rule on this subject being imperative, the Committee were obliged to enforce it.

The Annual Exhibition was in all respects a good one. The display of vegetables was fully up in quantity, while many of the objects shown have more nearly approached perfection than heretofore. In some instances, however, the exhibitor has made the mistake of exposing his largest specimens, without regard to form or quality. The rage for overgrown beets and mammoth squashes it is hoped has gone by; they are always coarse-grained and watery, only fit for stock feeding. Quickly grown, medium sized, clean and smooth specimens are far preferable for the table, or for taking a prize at a horticultural exhibition, and your Committee would intimate to contributors that in making their awards, they will regard the above requisites as of more importance than great size.

The display of potatoes at the annual exhibition was remarkably fine, Samuel Hartwell showing the largest collection and greatest number of varieties. Very fine collections were also exhibited by Mrs. M. T. Goddard, G. W. Pierce, C. G. Pringle, Walter Russell, John L. De Wolf and S. A. Merrill. In the collection of E.

S. Brownell, of Vermont, were several new varieties, three years from the seed ball, which he considers quite promising, and which were on exhibition for the first time. These seedlings Mr. Brownell proposes to test another year before giving them to the public. He has also entered his seedling, Seek-no-further, for the Society's prospective prize of thirty dollars offered for the best seedling late potato, after a public trial of three years. The evident attention paid to the cultivation and improvement of the potato is entitled to the highest commendation, and should receive the encouragement of the Society.

At the Annual Exhibition, S. A. Merrill, was, as usual, the largest contributor. The collection of John Cummings formed a prominent feature of the exhibition, and was acknowledged by all who saw it to be one of remarkable excellence. Many other fine collections might be particularized at this exhibition, but it would make our report too long, and we would refer you to the annexed list of prizes awarded by your committee, which will designate the successful competitors.

Respectfully submitted by

C. N. Brackett,
George W. Pierce,
Josiah Crosby,
Walter Russell,
George Hill,
John Fillebrown,
Anthony Hatch,

Vegetable Committee.

PRIZES AND GRATUITIES FOR VEGETABLES.

DECEMBER 26, 1874.

Gratuity:—

To Mrs. E. M. Gill, for Lettuce, ... $1 00

JANUARY 2, 1875.

Gratuity:—

To Mrs. E. M. Gill, for Lettuce, ... 2 00

JANUARY 23.

Gratuity:—

To G. F. Stone, for Lettuce, ... 1 00

FEBRUARY 27.

Gratuity:—

To S. W. Twombly & Son, for Dandelions, . . . 1 00

MARCH 6.

Gratuity:—

To S. H. Scott, for Cucumbers, ... 3 00

MARCH 20.

Gratuity:—

To Josiah Crosby, for Lettuce, ... 3 00

MARCH 27.

Gratuities:—

To Josiah Crosby, for Lettuce, ... 2 00
W. Gage, for Rhubarb and Kale, ... 4 00

APRIL 3.

Gratuities:—

To Walter Russell, for Lettuce, ... 3 00
" " " Radishes, ... 2 00
C. N. Brackett, for Tennisball Lettuce, . . . 1 00
S. W. Twombly & Son, for Cucumbers, . . . 3 00

AZALEA EXHIBITION.

April 10.

Lettuce.—For the best four heads of Tennisball, to Walter Russell,	$4 00
For the second best, to Josiah Crosby,	3 00
Radishes.—For the best four bunches of Turnip Rooted, to Josiah Crosby,	4 00
For the second best, to W. Russell,	3 00
For the best four bunches of Long Scarlet, to J. Crosby,	4 00

Gratuity:—

To A. S. M'Intosh, for Artichokes,	1 00

April 17.

Gratuities:—

To G. F. Stone, for collection of Lettuce,	4 00
W. Russell, for Lettuce,	1 00
W. D. Philbrick, for Lettuce,	1 00

May 1.

Gratuities:—

To George F. Stone, for Lettuce,	3 00
G. W. Pierce, " "	2 00
C. M. Atkinson, for Parsley in pots,	2 00

May 8.

Gratuities:—

To G. M. Mellen, for Lettuce,	1 00
C. N. Brackett, " "	2 00
Marshall P. Wilder, for Tomatoes,	2 00

May 15.

Gratuities:—

To Walter Russell, for collection,	3 00
Josiah Crosby, " "	2 00
Marshall P. Wilder, for Sion House Improved Cucumbers,	2 00
G. M. Mellen, for Lettuce,	1 00

May 22.

Gratuities:—

To B. G. Smith, for Asparagus, ... $1 00
Marshall P. Wilder, for Cucumbers, ... 1 00

May 29.

Gratuity:—

To John B. Moore, for Asparagus, ... 2 00

June 5.

Asparagus.—For the best four bunches, twelve stalks each, to John B. Moore, ... 4 00
For the second best, to Walter Russell, . . . 3 00
For the third best, to Samuel Hartwell, . . . 2 00
Cucumbers.—For the best pair, grown under glass, to John Fillebrown, ... 4 00
For the second best, to C. W. Chamberlain, . . 3 00
For the third best, to W. Russell, ... 2 00
Rhubarb.—For the best twelve stalks, to Alexander Dickinson, ... 4 00
For the second best, to S. Hartwell, . . . 3 00
For the third best, to George M. Mellen, . . 2 00
Radishes.—For the best four bunches of Long Scarlet, to W. Russell, ... 4 00
For the second best, to Josiah Crosby, . . . 3 00
For the best four bunches of Turnip Rooted, to W. Russell, ... 4 00
For the second best, to W. Russell, for Intermediate, 3 00
Lettuce.—For the best four heads, to Josiah Crosby, . 4 00
For the second best, to C. W. Chamberlain, . . 3 00
For the best four heads of Boston Curled, to C. W. Chamberlain, ... 4 00
For the second best, to Josiah Crosby, . . . 3 00
Carrots.—For the best twelve specimens of Short Scarlet, to Josiah Crosby, ... 4 00

Gratuity:—

To Marshall P. Wilder, for Sion House Cucumbers, . 2 00

JUNE 12.

Gratuities:—

To —— Parker, for Tomatoes, ... $1 00
Charles Garfield, for Egyptian Beets, . . . 1 00

JUNE 26.

Gratuities:—

To Josiah Crosby, for collection, ... 5 00
J. Tailby, for William the First Peas, . . . 2 00
C. D. Kingman, for Alpha Potatoes, . . . 2 00

JUNE 28.

Gratuities:—

To W. C. Child, for Caractacus Peas, ... 2 00
G. M. Mellen, " " " 1 00
Joseph Tailby, for Emerald Gem Peas, . . . 2 00
Josiah Crosby, for collection, ... 6 00
Marshall P. Wilder, for Cucumbers, . . . 2 00

JULY 2.

PEAS.—For the best peck, to Joseph Tailby, for William the First, ... 4 00
For the second best, to Charles Garfield, . . 3 00
For the third best, to M. W. Chadbourne, . . 2 00
BEETS.—For the best summer, Turnip Rooted, twelve specimens, to Josiah Crosby, for Deering, . . 4 00
For the best Egyptian, twelve specimens, to Charles Garfield, ... 4 00
For the second best, to Josiah Crosby, . . . 3 00
For the third best, to George W. Pierce, . . . 2 00
CUCUMBERS.—For the best pair of White Spine, to J. Crosby, ... 4 00
For the second best, to G. W. Pierce, . . . 3 00
For the third best, to C. W. Chamberlain, . . 2 00
LETTUCE.—For the best four heads, of any variety, to G. W. Pierce, for Tennisball, ... 4 00
For the second best, to G. W. Pierce, for Cabbage, . 3 00
For the third best, to G. F. Stone, for Tennisball, . 2 00
CARROTS.—For the best twelve specimens of Short Scarlet, to Josiah Crosby, ... 4 00

Onions.—For the best twelve specimens, to J. Crosby, .	$4 00
For the second best, to C. W. Chamberlain, . .	2 00
Gratuities:—	
To W. C. Child, for Peas, ...	2 00
C. W. Chamberlain, for Advancer Peas, . . .	2 00
Joseph Tailby, for Carter's Extra Early Peas, . .	2 00
G. M. Mellen, " collection of Peas, . . .	2 00
Josiah Crosby, " Radishes, ...	2 00
G. W. Pierce, " Rhubarb, ...	2 00

July 10.

Cranberry Beans.—For the best peck, to Walter Russell, ...	4 00
Squashes.—For the best Long Warted Summer, four specimens, to Walter Russell, ...	3 00
Peas.—For the best peck, of any variety, to C. W. Chamberlain, ...	4 00
For the second best, to G. M. Mellen, . . .	3 00
For the third best, to W. C. Child, ...	2 00
Onions.—For the best twelve specimens, to C. W. Chamberlain, ...	4 00
Potatoes.—For the best peck, of any variety, to C. D. Kingman, ...	4 00
For the second best, to C. W. Chamberlain, . .	3 00
Cabbages.—For the best four, to Walter Russell, . .	4 00
Gratuities:—	
To C. W. Chamberlain, for collection, ...	2 00
Walter Russell, " "	2 00
W. H. Spooner, " " of Peas, . .	2 00
Miss A. C. Wheeler, for Beans, ...	1 00
C. D. Kingman, for Wax Beans, ...	2 00

July 17.

Tomatoes.—For the best twelve specimens, to C. D. Kingman, ...	4 00
For the second best, to G. W. Pierce, . . .	3 00
Gratuities:—	
To M. R. Rollins, for Cos Lettuce, ...	1 00

To Charles Garfield, for collection of Peas, . . . $2 00
W. H. Spooner, " " " . . . 2 00
Miss A. C. Wheeler, for collection of Beans, . . 1 00
Samuel Hartwell, for Peas, ... 1 00
W. C. Child, for Marrowfat Peas, ... 1 00
Mrs. E. M. Gill, for Dwarf Beans, ... 1 00

JULY 24.

SQUASHES.—For the best four Marrow, to Josiah Crosby, 4 00
CABBAGES.—For the best four Drumhead, to Walter Russell, ... 4 00
BEANS.—For the best peck of Dwarf Horticultural, to Mrs. E. M. Gill, ... 4 00
TOMATOES.—For the best twelve specimens, to C. D. Kingman, ... 4 00
For the second best, to Walter Russell, . . . 3 00
For the third best, to C. D. Kingman, for Gen. Grant, 2 00

Gratuities:—

To Josiah Crosby, for collection, ... 4 00
Miss A. C. Wheeler, for collection, ... 1 00
W. H. Spooner, for Omega Peas, ... 1 00
J. H. Woodford, for Pole Wax Beans, . . . 1 00
W. C. Child, for Sweet Corn, ... 1 00

JULY 31.

TOMATOES.—For the best twelve specimens, to C. N. Brackett, ... 4 00
For the second best, to G. W. Pierce, . . . 3 00
For the third best, to George Hill, ... 2 00
For the fourth best, to C. D. Kingman, . . . 1 00
TURNIPS.—For the best Flat, twelve specimens, to Anthony Hatch, ... 4 00
CORN.—For the best Sweet, twelve ears, to George Hill, 4 00
For the second best, to W. C. Child, . . . 3 00
For the third best, to C. E. Grant, . . . 2 00
EGG PLANT.—For the best Black Pekin, four specimens, to George Hill, ... 4 00
For the second best, to Josiah Crosby, . . . 3 00

Gratuities:—

To Charles Garfield, for collection, ... $2 00
C. N. Brackett, " " 2 00
G. M. Mellen, " " 1 00
Joseph Tailby, for Wax Beans, ... 1 00

AUGUST 7.

SWEET CORN.—For the best twelve ears of Early Crosby, to Walter Russell, ... 4 00
For the second best, to Samuel Hartwell, . . 3 00
For the third best, to George Hill, ... 2 00
For the best twelve ears of Early Concord, to C. E. Grant, ... 4 00
SQUASHES.—For the best four Marrow, to Josiah Crosby, 4 00
TOMATOES.—For the best twelve specimens of Gen. Grant, to C. N. Brackett, ... 4 00
For the second best, to G. M. Mellen, . . . 3 00
For the best twelve specimens of Boston Market, to George Hill, ... 4 00
For the second best, to Walter Russell, . . . 3 00
For the third best, to C. E. Grant, ... 2 00

Gratuities:—

To W. C. Child, for collection, ... 2 00
G. M. Mellen, for Potatoes, ... 1 00
C. N. Brackett, for Crosby Corn, ... 1 00
Walter Russell, for Pekin Egg Plant, . . . 2 00

AUGUST 14.

EGG PLANT.—For the best Black Pekin, four specimens, to Josiah Crosby, ... 4 00
For the second best, to George Hill, . . . 3 00
For the third best, to C. M. Atkinson, . . . 2 00
For the best Large Round Purple, to J. Crosby, . . 4 00
For the second best, to George Hill, . . . 3 00
MELONS.—For the best Greenflesh, four specimens, to Josiah Crosby, ... 4 00
TOMATOES.—For the best twelve, of any variety, to C. N. Brackett, ... 4 00
For the second best, to G. W. Pierce, . . . 3 00
For the third best, to G. M. Mellen, . . . 2 00

Gratuities:—

To Charles Garfield, for collection, ... $1 00
C. E. Grant, " " 3 00
George W. Pierce, " " 2 00
C. N. Brackett, " " 2 00
Walter Russell, " " 5 00
Carter, Dunnett & Beale, London, for collection of Red and White Onions, ... 2 00
W. C. Child, for Sieva Beans, ... 1 00
J. Tailby, for Hybrid Cucumbers, No. 2, and Snowflake Potatoes, ... 2 00

AUGUST 21.

MELONS.—For the best Greenflesh, of any variety, four specimens, to Walter Russell, ... 4 00
For the second best, to George Hill, . . . 3 00
For the third best, to Josiah Crosby, . . . 2 00
MUSKMELONS.—For the best four specimens, to George W. Pierce, ... 4 00
EGG PLANTS.—For the best Large Round Purple, four specimens, to Walter Russell, ... 4 00
For the second best, to George Hill, . . . 3 00
For the third best, to Josiah Crosby, . . . 2 00
For the best Black Pekin, four specimens, to George W. Pierce, ... 4 00
For the second best, to Josiah Crosby, . . . 3 00
For the third best, to George Hill, ... 2 00

Gratuities:—

To Charles Garfield, for collection, ... 3 00
A. A. Pope, " " 2 00
G. M. Mellen, " " 2 00
C. N. Brackett, " " 1 00
B. G. Smith, for Lima Beans, ... 2 00
W. C. Child, " " " 1 00
J. Tailby, for Hybrid Cucumbers, No. 2, . . . 1 00
Peter Fottler, for Brunswick Cabbage, . . . 1 00
M. W. Chadbourne, for Sweet Corn, ... 1 00
Walter Russell, for Crosby Corn, ... 1 00
C. E. Grant, for Concord Corn, ... 1 00
J. B. Moore, for collection of Tomatoes, . . . 1 00
G. W. Pierce, for Texan Egg Plant, . . . 2 00

August 28.

Potatoes.—For the best peck, of any variety, to Walter Russell,	$4 00
For the second best, to Charles Garfield,	3 00
For the third best, to G. M. Mellen,	2 00
Beans.—For the best two quarts of Small Lima or Sieva, to B. G. Smith,	4 00
For the second best, to C. Garfield,	3 00
For the third best, to W. C. Child,	2 00
Peppers.—For the best twelve specimens, to G. W. Pierce,	4 00
For the second best, to Josiah Crosby,	3 00
For the third best, to C. N. Brackett,	2 00
Gratuities:—	
To Walter Russell, for collection,	2 00
G. M. Mellen, " "	1 00
George W. Pierce, for Greenflesh Melons,	2 00
J. C. Park, for Burr's Corn,	1 00
W. C. Child, for Mammoth Corn,	1 00
Charles Garfield, for collection of Tomatoes,	1 00
W. C. Child, for Lima Beans,	1 00

September 4.

Beans.—For the best two quarts of Large Lima, to Benjamin G. Smith,	4 00
For the second best, to George Hill,	3 00
For the third best, to Charles Garfield,	2 00
Watermelons.—For the best pair, to M. W. Chadbourne,	4 00
For the second best, to Samuel Hartwell,	3 00
For the third best, to " "	2 00
Celery.—For the best four roots, to Josiah Crosby,	4 00
For the second best, to John Fillebrown,	3 00
For the third best, to George Hill,	2 00
Peppers.—For the best twelve specimens, to Anthony Hatch,	4 00
For the second best, to C. N. Brackett,	3 00
For the third best, to Josiah Crosby,	2 00
Gratuities:—	
To B. G. Smith, for Dreer's Improved Lima Bean,	1 00
Charles Garfield, for collection,	1 00

To Walter Russell, for Lima Beans,	$1 00
Mrs. E. M. Gill, " " "	1 00
C. E. Grant, " " "	1 00
Anthony Hatch, for Okra,	1 00
Sam'l Hartwell, for Burr's Corn,	1 00
C. E. Grant, " " "	1 00
J. B. Tilley, " " "	1 00
G. N. Noyes, for Corn,	1 00
J. B. Moore, for Cauliflowers,	2 00
G. W. Pierce, for Melons,	2 00
John Fillebrown, for Melons,	1 00
N. B. White, for New Seedling Tomato,	2 00
W. H. Spooner, for Green Gage Tomato,	1 00

SEPTEMBER 11.

CELERY.—For the best four roots, to Josiah Crosby,	4 00
For the second best, to John Fillebrown,	3 00
MELONS.—For the best Greenflesh, three specimens, to Joshua Cooledge,	4 00
For the second best, to G. W. Pierce,	3 00
For the third best, to John Fillebrown,	2 00
SALSIFY.—For the best twelve specimens, to Josiah Crosby,	4 00

Gratuities:—

To Charles Garfield, for collection,	2 00
C. E. Grant, " "	2 00
Samuel Hartwell, for Sweet Corn,	1 00
George N. Noyes, " " "	1 00
M. W. Chadbourne, for Watermelons,	2 00

ANNUAL EXHIBITION.

SEPTEMBER 21, 22, AND 23.

Special Prize.

CELERY.—For the best four roots, to John Fillebrown,	8 00
For the second best, to Josiah Crosby,	5 00
BEETS.—For the best Turnip Rooted, twelve specimens, to G. F. Stone,	4 00

For the second best, to Walter Russell, . . . $3 00
For the third best, to John Fillebrown, . . . 2 00
For the best Long Blood, twelve specimens, to Josiah Crosby, ... 4 00
For the second best, to S. A. Merrill, . . . 3 00
For the third best, to A. T. Brown, . . . 2 00
Carrots.—For the best Early Horn, twelve specimens, to Walter Russell, ... 4 00
For the second best, to Anthony Hatch, . . 3 00
For the third best, to G. W. Pierce, . . . 2 00
For the best Long Orange, twelve specimens, to J. Fillebrown, ... 4 00
For the second best, to Warren Rawson, . . 3 00
For the third best, to Josiah Crosby, . . . 2 00
For the best Intermediate, twelve specimens, to Walter Russell, ... 4 00
For the second best to G. W. Pierce, . . . 3 00
For the third best, to Mrs. M. T. Goddard, . . 2 00
Corn.—For the best Sweet, twelve specimens, to George N. Noyes, ... 4 00
For the second best, to John Cummings, . . 3 00
For the third best, to John B. Moore, . . . 2 00
For the best Burr's, twelve specimens, to Charles Garfield, ... 4 00
For the second best, to C. E. Grant, . . . 3 00
For the third best, to A. T. Brown, . . . 2 00
For the best Yellow or Field, twenty-five ears, traced, to Mrs. M. T. Goddard, ... 4 00
For the second best, to D. F. Hayes, . . . 3 00
For the third best, to Josiah Newhall, . . . 2 00
Cauliflowers.—For the best four specimens, to John B. Moore, ... 4 00
Brussells Sprouts.—For the best two quarts, to Mrs. M. T. Goddard, ... 4 00
For the second best, to Anthony Hatch, . . . 3 00
Celery.—For the best four roots, to John Fillebrown, . 4 00
For the second best, to Josiah Crosby, . . . 3 00
For the third best, to Warren Rawson, . . . 2 00
Tomatoes.—For the best three varieties, twelve specimens each, to John Cummings, ... 5 00

For the second best, to G. W. Pierce, . . .	$4 00
For the third best, to S. A. Merrill, . . .	3 00
For the best single dish, twelve specimens, of Boston Market, to Walter Russell, ...	3 00
For the best single dish, twelve specimens, of Arlington, to A. T. Brown, ...	3 00
For the best single dish, twelve specimens, of Canada Victor, to J. J. H. Gregory, ...	3 00
For the best single dish, twelve specimens, of any other sort, to J. J. H. Gregory, for Paragon, .	3 00
For the best single dish, twenty-four specimens, of any variety, to C. N. Brackett, for Gen. Grant, . .	4 00
For the second best, to J. Fillebrown, for Emery, .	3 00
For the third best, to A. Dickinson, for Boston Market, ...	2 00
Okra.—For the best twenty-four specimens, to Mrs. M. T. Goddard, ...	4 00
For the second best, to Anthony Hatch, . . .	3 00
Martynias.—For the best twenty-four specimens, to Anthony Hatch, ...	4 00
For the second best, to G. W. Pierce, . . .	3 00
Cranberries.—For the best half-peck, to W. G. Prescott,	4 00
For the second best, to C. N. Brackett, . . .	3 00
Melons.—For the best Greenflesh, three specimens, to George W. Pierce, ...	4 00
For the second best, to S. A. Merrill, . . .	3 00
For the third best, to John Fillebrown, . . .	2 00
Muskmelons.—For the best three specimens, to S. A. Merrill, ...	4 00
For the second best, to Josiah Newhall, . . .	3 00
Watermelons.—For the best two specimens, to B. G. Smith, ...	4 00
For the second best, to M. W. Chadbourne, . .	3 00
For the third best, to Mrs. M. T. Goddard, . .	2 00
Beans.—For the best Large Lima, two quarts, to G. W. Pierce, ...	4 00
For the second best, to B. G. Smith, . . .	3 00
For the third best, to George Hill, ...	2 00
Parsnips.—For the best Long, twelve specimens, to W. W. Rawson, ...	4 00

For the second best, to Josiah Crosby, . . .	$3 00
For the third best, to John Fillebrown, . . .	2 00
Potatoes.—For the best four varieties, one peck each, to Walter Russell, ...	6 00
For the second best, to J. L. DeWolf, . . .	5 00
For the third best, to S. A. Merrill, . . .	4 00
For the best peck of Jackson, to Samuel Hartwell, .	3 00
For the best peck of Brownell's Beauty, to John Cummings, ...	3 00
For the best peck of Early Rose, to Walter Russell, .	3 00
For the best peck of Bresee's Prolific (or No. 2), to John Cummings, ...	3 00
For the best peck of Snow Flake, to C. G. Pringle, .	3 00
For the best peck of any other variety, to C. G. Pringle, for Alpha, ...	3 00
Salsify.—For the best twelve specimens, to John L. DeWolf, ...	4 00
For the second best, to W. A. Crafts, . . .	3 00
For the third best, to Mrs. M. T. Goddard, . .	2 00
Squashes.—For the best Marrow, four specimens, to George Hill, ...	4 00
For the second best, to Seth W. Hathaway, . .	3 00
For the third best, to George W. Pierce, . .	2 00
For the best Hubbard, four specimens, to George Hill,	4 00
For the second best, to J. J. H. Gregory, . .	3 00
For the third best, to W. Russell, ...	2 00
For the best Turban, four specimens, to Seth W. Hathaway, ...	4 00
For the second best, to J. J. H. Gregory, . .	3 00
For the third best, to George W. Pierce, . .	2 00
For the best Marblehead, four specimens, to S. W. Hathaway, ...	2 00
For the second best, to John Cummings, . .	3 00
For the third best, to Mrs. M. T. Goddard, . .	2 00
For the best Canada, four specimens, to J. H. Fenno,	4 00
For the second best, to Josiah Pratt, . . .	3 00
For the third best, to John L. DeWolf, . . .	2 00
Turnips.—For the best twelve specimens, to Walter Russell, ...	3 00
For the second best, to S. A. Merrill, . . .	2 00

For the third best, to A. T. Brown, . . .	$1 00
For the best twelve Swedish Turnips, to A. T. Brown,	3 00
For the second best, to Mrs. M. T. Goddard, . .	2 00
For the third best, to S. A. Merrill, . . .	1 00
Cabbages.—For the best Drumhead, three specimens, to John Cummings, ...	4 00
For the second best, to S. A. Merrill, . . .	3 00
For the third best, to Mrs. M. T. Goddard, . .	2 00
For the best single specimen, to John Cummings, .	3 00
For the second best, to S. A. Merrill, . . .	2 00
For the best Red, three heads, to Anthony Hatch, .	4 00
For the second best, to Mrs. M. T. Goddard, . .	3 00
For the third best, to S. A. Merrill, . . .	2 00
For the best Savoy, three heads, to John Cummings, .	4 00
For the second best, to S. A. Merrill, . . .	3 00
For the third best, to Mrs. M. T. Goddard, . .	2 00
Horse Radish.—For the best six roots, to W. W. Rawson,	3 00
For the second best, to Walter Russell, . . .	2 00
Peppers.—For the best peck, to George W. Pierce, .	4 00
For the second best, to George F. Stone, . .	3 00
For the third best, to C. N. Brackett, . . .	2 00
Onions.—For the best peck of any one variety, to George W. Pierce, ...	4 00
For the second best, to Walter Russell. . . .	3 00
For the third best, to G. F. Stone, ...	2 00
For the best three varieties, one peck each, to Josiah Crosby, ...	5 00
For the second best, to Anthony Hatch, . . .	4 00
For the third best, to Walter Russell, . . .	3 00
Egg Plants.—For the best Round Purple, four specimens, to Walter Russell, ...	4 00
For the second best, to Josiah Crosby, . . .	3 00
For the third best, to George W. Pierce, . .	2 00
For the best Black Pekin, four specimens, to George W. Pierce, ...	4 00
For the second best, to C. M. Atkinson, . . .	3 00
For the third best, to George Hill, ...	2 00
Pumpkins.—For the best four specimens, not less than twenty pounds each, to W. W. Rawson, . .	3 00
For the second best, to Anthony Hatch, . . .	2 00

Gratuities:—

To E. S. Brownell, for collection of Seedling Potatoes, .	$6 00
Samuel Hartwell, for " Potatoes, . .	8 00
George W. Pierce, " " " . . .	2 00
A. T. Brown, " " " . . .	2 00
Mrs. M. T. Goddard, for " " . . .	3 00
J. J. H. Gregory, for "	4 00
Seth W. Hathaway, " "	2 00
Joseph Swan, " "	4 00
W. A. Crafts, " "	2 00
G. F. Stone, " "	2 00
Hovey & Co., " "	2 00
H. B. Parker, " "	2 00
Horace Partridge, " "	2 00
Josiah Newhall, " "	2 00
Charles Garfield, for Peerless Potatoes, . . .	1 00
Joseph H. Fenno, " Sweet " . . .	2 00
S. A. Merrill, for Turban Squashes, ...	3 00
" " " Mammoth "	2 00
Alexander Dickinson, for Butman Squash, . .	1 00
J. J. H. Gregory, " " " . .	1 00
George Craft, for Squash, ...	2 00
Frederick Trebandt, for Endive, ...	3 00
Walter Russell, for Lettuce, ...	2 00
Samuel Hartwell, for Watermelons, ...	1 00

OCTOBER 9.

CAULIFLOWERS.—For the best four heads, to Walter Russell, ...	4 00
For the second best, to John Cummings, . . .	3 00
CELERY.—For the best four roots, to Josiah Crosby, .	4 00
For the second best, to John Fillebrown, . .	3 00
For the third best, to Walter Russell, . . .	2 00
CABBAGES.—For the best Red, three heads, to Anthony Hatch, ...	4 00
For the second best, to John Cummings, . . .	3 00
For the best Savoy, three heads, to John Cummings, .	4 00
For the second best, to Anthony Hatch, . . .	3 00
For the best Drumhead, three heads, to John Cummings, for Brunswick, ...	4 00

For the second best, to John Cummings, for Mammoth.	$3 00
Salsify.—For the best twelve specimens, to Anthony Hatch,	4 00
For the second best, to Josiah Crosby,	3 00
Horse Radish.—For the best six roots, to W. Russell,	4 00
For the second best, to John Fillebrown,	3 00

Gratuities:—

To A. S. M'Intosh, for Artichokes,	1 00
F. Trebandt, for Endive,	1 00
Walter Russell, for Turnips,	1 00
Miss A. C. Wheeler, for Tomatoes,	1 00

November 7.

Gratuities:—

To James Comley, for Veitch's New Dwarf Cauliflower,	3 00
Josiah Crosby, for very fine Celery,	3 00
Anthony Hatch, for collection,	4 00
A. S. M'Intosh, for Artichokes,	1 00
J. H. Fenno, for Sweet Potatoes,	1 00

November 20.

Gratuity:—

To James Comley, for Cauliflowers,	2 00

The amount awarded to each contributor is as follows:—

C. M. Atkinson	$7	John L. DeWolf	$11
C. N. Brackett	37	Alexander Dickinson	7
A. T. Brown	13	J. H. Fenno	7
E. S. Brownell	6	John Fillebrown	44
Carter, Dunnett & Beale, London,	2	Peter Fottler	1
M. W. Chadbourne	12	Charles Garfield	33
C. W. Chamberlain	30	W. Gage	4
W. C. Child	19	Mrs. E. M. Gill	9
James Comley	5	Mrs. M. T. Goddard	32
George Craft	2	C. E. Grant	19
W. A. Crafts	5	J. J. H. Gregory	17
Josiah Crosby	150	Anthony Hatch	47
John Cummings	45	Samuel Hartwell	28
		Seth W. Hathaway	13

D. F. Hayes	$3	W. G. Prescott	$4
George Hill	47	C. G. Pringle	6
Hovey & Co.	2	W. W. Rawson	15
C. D. Kingman	19	M. K. Rollins	1
George M. Mellen	22	Walter Russell	135
S. A. Merrill	35	S. H. Scott	3
A. S. M'Intosh	3	Benj. G. Smith	19
John B. Moore	15	W. H. Spooner	6
Josiah Newhall	7	George F. Stone	21
George N. Noyes	6	Joseph Swan	4
J. C. Park	1	Joseph Tailby	14
H. B. Parker	2	J. B. Tilley	1
—— Parker	1	Frederick Trebandt	4
H. Partridge	2	S. W. Twombly & Son	2
W. D. Philbrick	1	Miss A. C. Wheeler	4
George W. Pierce	88	N. B. White	2
A. A. Pope	2	Marshall P. Wilder	9
Josiah Pratt	3	J. H. Woodford	1

Amount of Appropriation,	$1,200 00
Prizes and Gratuities awarded,	1,119 00
Balance not awarded,	$81 00

REPORT

OF THE

COMMITTEE ON GARDENS,

FOR THE YEAR 1875.

By WILLIAM GRAY, Jr., Chairman.

The Committee on Gardens submit the following report of the places visited, and prizes awarded, during the year 1875 :—

Edward S. Rand, Jr's.

Mr. Rand's Greenhouses at Dedham have been visited twice; on the 23d of April, and on the 19th of November. The Orchids were the principal attraction on both occasions. At our spring visit *Cattleya Skinneri* and *C. Trianæ*, *Lycaste Skinneri*, *Phalænopsis amabilis*, *Saccolabium retusum*, *Vanda tricolor* and *V. cœrulescens*, with several *Cypripediums* and *Dendrobiums*, were in flower; many other kinds in bud gave promise of fine bloom later in the season. The condition of the houses and plants was not satisfactory.

At the second visit, although the floral display was not so fine, *Zygopetalum crinitum* with seventy flowers, *Vanda cœrulea* and *V. tricolor*, *Cypripedium Harrisianum* and *C. biflorum*, being the finest specimens in bloom, the improvement in the plants was so marked that it gives us great pleasure to record it here.

We award to Mr. Rand, for Orchids, which he has made a specialty, and of which he has the finest collection in this neighborhood, a gratuity of twenty-five dollars.

City Hospital.

On the 14th of August we visited the grounds of the Hospital, on Harrison Avenue, where the walks and grass were neatly kept,

and the flower borders were free from weeds; but there was nothing worthy of note in the arrangement of the plants, or in the kinds employed.

The mode of heating the Greenhouse is novel, and, where steam is always at command, must be economical; the usual four-inch pipes are connected with an upright iron tank in which the water is heated by a coil of steam pipes; the circulation is said to be perfect, and the temperature in the coldest weather of last winter did not fall below 58 degrees. The simplicity of the arrangement is admirable, and it can be used with advantage wherever steam is kept up constantly for other purposes.

Mrs. C. H. Leonard's.

On the 18th of September the Committee went to Mrs. Leonard's, in Rochester, Mass., to inspect the Orchard House, under the care of John Falconer. Here we found the peach, plum, apricot, nectarine, and cherry trees, in the finest possible condition, and had an opportunity of testing many kinds; among them, several of Rivers' latest seedling peaches and nectarines.

We award to Mrs. Leonard the Society's silver medal; and to Mr. Falconer the first prize of fifty dollars for the best Orchard House.

E. W. Wood's.

The only Grapery entered for premium this year was Mr. Wood's, at Newton. On the occasion of our visit it was filled with a remarkable crop of grapes, and everything was in perfect order. It is with great pleasure that we award to Mr. Wood the first prize of fifty dollars.

Woodlawn Cemetery.

By invitation of the Treasurer we passed an afternoon at Woodlawn. This Cemetery was begun in 1851, and now contains one hundred and seventy-five acres; it is situated in Everett, and is best approached through Chelsea and by Mount Washington Avenue. The principal features which distinguish this from other cemeteries in our vicinity are the lawn, near the entrance, of nearly twenty acres, bordered with a fine growth of trees, and Woodside and Netherwood Avenues, — the former three-fourths,

the latter half a mile in length. Netherwood Avenue, passing through a forest, with an undergrowth of rhododendrons and kalmias in many places, is particularly beautiful.

We award to Woodlawn Cemetery a gratuity of fifty dollars.

Newton Cemetery.

This Cemetery was begun a few years after Woodlawn, and contains about eighty acres. Although one of the latest established of the burial places near Boston, it ranks to-day among the foremost for beauty and finish. For simplicity and good taste, we consider it unrivalled; there is but little of the heavy granite and iron work so conspicuous in some other places, and in the new lots none is allowed — a rule which we think might be advantageously adopted by the older cemeteries in our neighborhood.

We award to the Newton Cemetery a gratuity of fifty dollars.

For the Committee,

WILLIAM GRAY, Jr., *Chairman.*

REPORT

OF THE

COMMITTEE ON PUBLICATION AND DISCUSSION.

The series of meetings for discussion held during the past year has confirmed the belief that the establishment of these meetings was the most important step in advance taken by the Society for many years, while the publication of the discussions has done more to extend the reputation of the Society, both in this country and abroad, than any other action since its formation.

The offering of prizes for essays must still be looked upon as an experiment, but the Committee deem it so far successful that they would ask for a renewal of the appropriation for the ensuing year, so that, if thought advisable to offer further prizes for essays, it may be done in season to afford more time for their preparation than was given last year.

It is gratifying to know that our schedule, though issued later than we could have wished, attracted attention and called forth contributions from all parts of our country, and even from across the Atlantic. In this connection it may be of interest to recall the offer, in the first schedule of prizes, published by the Society in 1829, of premiums for manuscript treatises—first, on the Cultivation and Management of Fruit Trees; second, on the Insects that attack Fruit Trees, and the best methods of destroying them; and third, on the Diseases of Fruit Trees, with the best method of preventing them. No prizes, however, were awarded, and it does not appear that any manuscripts on these subjects were offered. It is believed that the prize for the paper on the Cultivation of the Cabbage and Cauliflower is the first ever awarded by the Society for an essay. Indeed, our TRANSACTIONS for nearly half a century are singularly wanting in original papers devoted to horticultural science, if we except the annual reports of our Standing Committees, which are from necessity limited to a narrow channel. The experience of the past season would indicate that a quick

response would be given should the Society continue to offer prizes for essays.

It will doubtless often happen that papers will be accepted which may not contain new or original ideas, but which are yet practical and useful. And again, essays may be received which may advance theories from which there would be a general dissent. An important object with us is to awaken interest and lead to thoughtful experiment The fact that an essay receives a prize does not commit the Society to any theories which may be advanced therein, or to any opinions of individual members uttered in discussion. But it is deemed advisable to publish anything that is suggestive or that is likely to lead to investigation. Our exhibitions of horticultural products, however excellent, impart no information as to the methods of growing them. It is true that our cultivators are generally ready to give such knowledge to those who may have the good fortune to be acquainted with them, but this means of diffusing information is necessarily of limited extent. Essays and discussions, on the contrary, when published in the TRANSACTIONS of the Society may be read by every member and by horticulturists everywhere. In this way we may bring to light the knowledge and experience of our members and exert an influence which shall be wide-spread and permanent.

The Committee have made the following awards:

For the best Essay upon Grape Culture in gardens and on buildings, with a list of varieties best adapted to such purposes, to W. N. Barnett, of West Haven, Conn., the prize of	$25 00
For the best Essay upon the Culture of the Cauliflower and other vegetables of the Cabbage family (*Brassica oleracea*), to William N. White, the prize of .	25 00
For the best Essay upon the principles of Landscape Gardening, as applied to small suburban estates, to Daniel D. Slade, the prize of	25 00
To James Cruickshanks, for a paper on Landscape Gardening, a gratuity of	15 00

For the Committee,

WILLIAM C. STRONG,

Chairman.

REPORT OF THE EDITOR.

The recent establishment of the office of Editor seemed to require a year ago a full report of the doings of the previous year, but the similarity of duties makes it inevitable that the report of this year should be to a great extent a repetition of that of the last.

The making of notes of the discussions, the after writing out and submitting to the revision of the various speakers, the preparation of the other matter contained in our TRANSACTIONS for the press, and the superintendence of the printing, have, as last year, been the chief labors properly coming under the head of editorial. It will be noticed that our publications have increased in size, with a corresponding increase in the work of preparation.

The full reports of the weekly and annual exhibitions have been continued in the "Evening Transcript," and to these have been added brief notices of the meetings for discussion.

The number of specimens of fruit presented for name has been less the past year than in 1874; but, whether or not owing to the remarks made on this subject a year ago, the condition of such as were brought in showed a marked improvement.

The revision of the By-Laws, last spring and summer, more thorough than any previous one, occupied more of my time as Secretary of the Committee charged with that duty than could have been anticipated.

The two parts of the TRANSACTIONS, with the revision of the By-Laws and the miscellaneous work carried on while preparing and printing them, occupied several months, during which I was unable to give any attention to the History of the Society, but immediately on the completion of the TRANSACTIONS the history was resumed, and after very thorough investigation the chapters on the Finances of the Society, the various Halls occupied by it, and on the Library, have been wholly rewritten, leaving now little besides the account of the Exhibitions of the Society to be completed.

ROBERT MANNING, *Editor.*

THE ANNIVERSARY DINNER OF THE SOCIETY.

For several years after the formation of the Society the anniversary was celebrated by a public address and a dinner of the members of the Society and invited guests. The only Annual Exhibition was held in connection with the dinner, the fruits and bouquets being placed upon the table, and the dining-hall being decorated with the plants, festoons and bouquets contributed, until 1834, when the first display similar to our present Annual Exhibitions was held in Faneuil Hall. In 1842, 1845, and 1848 "Triennial Festivals," to which ladies were invited, were held, which were probably unsurpassed by any similar festivals ever held in Boston. Since 1848 the only anniversary dinner has been that of the Committee of Arrangements with a few invited guests, at the expense of the Society, on the day after the Annual Exhibition.

The past year it was thought advisable to change this plan and to provide a dinner to which all members of the Society, with ladies, should be admitted on an equal footing, and which was accordingly given in the Upper Hall at the close of the Annual Exhibition on Saturday, September 25th, being the first time that the Society has ever met in a social gathering under its own roof. No attempt was made to rival the Triennial Festivals of former days, the occasion being rather a modest family gathering, but invitations were sent to all the more prominent benefactors of the Society, or their representatives. Other invited guests were His Excellency Governor Gaston, Rev. James Freeman Clarke, Professor Asa Gray, and Judge John P. Putnam, of the Superior Court. The platform in the rear of the guests' table was covered with tropical plants, and the Germania Band was stationed in the gallery. At four o'clock about four hundred ladies and gentlemen sat down to dinner.

After an hour's feast President Parkman called the company to order, and said that he was happy to meet the members of the Society on this social occasion. The Massachusetts Horticultural

Society was never so strong and its prospects never so bright before. It had a thousand members, in every department of life, and its influence for good was extending over every part of the country. In a few appropriate remarks he then introduced His Excellency the Governor.

Governor Gaston thanked the audience for their kind reception. He rejoiced in this season of business depression, when many of the arms of industry were paralyzed, that the earth poured forth her bounteous fruits in abundance; that by the providence of God seed time and harvest would not fail, and that there were blessings and mercies for us, notwithstanding the ominous look of things upon the earth, and said this season of the year, when the fruits of the earth reached their greatest luxuriance, was an especially appropriate time for festivity. The Governor concluded by saying that he took pleasure in acknowledging the importance and usefulness of the Society, and hoping that its future might be worthy of its present.

The President next introduced Rev. James Freeman Clarke, who related an anecdote of the Boston nectarine, which was introduced by the late Samuel G. Perkins. Mr. Perkins sent to the London Horticultural Society a painting of this fruit so richly colored that its correctness was doubted. Some time afterwards Mr. Perkins was travelling in Europe, and met an Englishman who asked him if he did not come from America. Mr. Perkins replied that he did, and the Englishman said that he was a member of the London Horticultural Society, and that they received from Boston some years ago a painting of a fruit with colors so bright and beautiful that he did not believe it was or could be natural. Mr. Perkins said it was natural; he had seen the picture and the fruit, and the colors corresponded. The Englishman said nothing more then, but when they reached an inn that night, and were about parting to retire, asked: "May I trouble you to just repeat what you said about that nectarine?" Mr. Perkins repeated what he had said, and added that he knew the picture well, he had seen the nectarines, had the picture painted, owned the trees, raised the fruit, and his name was Perkins! The Englishman said not another word but left the room, evidently thinking the whole story a Yankee humbug.

After music by the band President Parkman introduced Marshall P. Wilder, Ex-President of the Society.

Mr. Wilder thanked the assembly for the cheers with which the announcement of his name was greeted, and the President for having revived the festivals of the Society, and for the invitation to the ladies, whose presence always adds beauty and brilliancy to such scenes. He alluded to the first Triennial Festival, thirty-three years before, when it was a question whether ladies should be admitted to the festive board. It was agreed that they should, and so far as he knew that was the first horticultural festival where woman graced the table, and this brought to his mind those halcyon days when the Society held its festivals in the Cradle of Liberty, when the panels were adorned with the names of the patrons of horticulture, the pillars enwreathed with garlands, and the tables surrounded with flowers of female loveliness, with Madam Alexander Hamilton at their head; when Webster, Everett, Seward, Dearborn, Downing, and others of like distinction, honored us with their presence. But these were all gone, and only a few of the original members of the Society were left. Of its first officers, only three still live; Hon. John C. Gray, a Vice-President, Cheever Newhall, Treasurer, and Dr. Jacob Bigelow, Corresponding Secretary. Mr. Wilder regretted their absence this evening, but rejoiced that we had representatives of Dr. Bigelow, — his daughter, and his son-in-law, our honored President. To Dr. Bigelow, more than to any other man, the public were indebted for the idea of establishing the Cemetery of Mount Auburn.

Mr. Wilder alluded to the time, which many could remember, when there was not a horticultural society, a horticultural magazine, or a horticultural exhibition in our broad land, and said that now they are counted by hundreds, and in all this progress, the Massachusetts Horticultural Society had been a great leader and exemplar. He concluded by saying that when he reflected upon the enjoyment he had had in the cultivation of fruits and flowers, and the pleasures of rural life, he sometimes felt as though he would like to live here forever. "Though in heaven the trees of life ambrosial fruitage bear, and vines yield nectar," yet God had made this world so fair and beautiful, and the communion with dear and cherished friends so precious and delightful, that he prayed that he might be permitted to live here a little longer to co-operate with the Society in the promotion of its objects. In the midst of the joyous scenes of the evening, drinking in the sweet odor of fruits and flowers, and the still sweeter incense from kindred souls, he felt that he was living his life over again.

President Parkman then remarked that the Society owed a great deal of its prosperity to Theodore Lyman, and it gave him pleasure to present to the company a son of that gentleman, Colonel Theodore Lyman.

Colonel Lyman said that he had been introduced as somebody's son, and no greater disadvantage could befall a man on an occasion like this, for immediately all the elderly people began to prick up their ears and open their eyes in the expectation of seeing some similarity between the father and son, but in a great many cases they were disappointed. Something had been said about Lee's surrender, and that he had a share in bringing it about, and people expected to see a man with a small share of arms, with no legs in particular, and a terrible scar across his face; and if he were not like this — if he were not a sort of General Bartlett, with not much left but his head and his heart, why people looked on him as an impostor. Col. Lyman concluded with an ingenious argument to prove that this was the oldest country in the world; that we had created a fertile soil out of sand — in fact, made something out of nothing.

Rev. Asa Bullard, President of the Cambridge Horticultural Society, was the next speaker, and took for his theme the concentration of labor on the land. Addresses were also made by Prof. Gray, Judge Putnam, Rev. A. B. Muzzey, Ex-President J. F. C. Hyde, Vice Presidents H. Weld Fuller and P. Brown Hovey; C. H. B. Breck, Chairman of the Committee of Arrangements; E. W. Buswell, Treasurer, and Hervey Davis, Chairman of the Fruit Committee. A poem written for the occasion was read by Edward S. Rand, Jr., and the exercises were concluded at an early hour by the singing of "Auld Lang Syne," by the company.

REPORT

OF THE

COMMITTEE ON THE LIBRARY,

FOR THE YEAR 1875.

During the past year no large addition has been made to the Library of the Society. The purchase of the magnificent copy of the rare Flora Danica, in the latter part of the year 1874, not only exhausted the appropriation for that year, but drew heavily in advance upon the funds of 1875.

Although a special appropriation, recently made for this object, has placed the Committee in funds, there have been but few desirable works offered, and a balance will remain to the credit of the Committee. There is one feature peculiar to all great scientific works, which accounts for their scarcity. The first cost is great, and the edition is usually small. Once out of print (and they are seldom stereotyped), they are rarely again produced. The result is that the copies soon find permanent resting places on the shelves of libraries, and are seldom found in the market. At times, however, when an old private library comes under the hammer of the auctioneer, an opportunity is offered of obtaining such rare works, and it is to such opportunities that our library owes many of its choicest acquisitions. To enable your Committee to avail itself of such occasions, it is advisable that funds should always be at its disposal. It is a good rule never to neglect an opportunity to purchase a rare and desirable book, if the price is not exhorbitantly high; for it is the worst of economy to delay for another chance which may never come. The aim of our Society should be to place upon its library shelves every obtainable volume on horticulture, or kindred subjects. Let it be understood that any such volume can be found in our library, and that fact at once gives a position of influence to the Society. It is true we may thus accumulate many books for which there will be little call, and

which few will wish to consult. But it is one of the duties of the Society to have for the use of its members, and through them for the public, volumes with which we do not care to cumber our private libraries. The proper place of such volumes is in our library, and while we should always keep a sufficient number of copies of the more common text-books of horticulture, it is not so much the duty of the Society to supply these as to keep for ready reference volumes which from age or high cost are not obtainable by the general public.

There are very many costly illustrated volumes which are so expensive that few private individuals can possess them, and these should be in our library. We are fortunate in possessing many such, and every year, as occasion offers, more are added. The growth of the library during the last nineteen years, since in 1857 the writer first became a member of the Committee, has been remarkable. From a small beginning there has been constant and rapid increase, till now the want of increased accommodation is a serious obstacle to ready reference to many books. This matter must receive early attention from the Society.

The binding of serial magazines is important, as from these the progress of horticulture, and the data so necessary for its history, are most readily obtained. These serials should be so shelved as to be of ready access.

The Committee would particularly call the attention of the Society to the magnificent copy of Curtis' Flora Londinensis, which was purchased from the library of the late Charles Sprague. For beauty of coloring, fidelity to nature, and elegance of binding, the volumes are most valuable. Beddome's Ferns of British India is a decided acquisition, and is a rare and valuable work upon a most interesting department of horticulture.

Jennings' and Warner's Orchidaceous Plants, and Bateman's Monograph of Odontoglossum, are most beautifully illustrated volumes, the high cost of which will ever prevent them from becoming common. Lindley's Nature Printed Ferns is a very rare volume, which has long been a desideratum, and at last we are fortunate in obtaining a fine copy.

The Committee regret that so few works on Pomology are obtainable, but hope to make this department of the library more prominent in the future.

Of donations, your Committee would call special attention to

the new edition of Emerson's Trees and Shrubs of Massachusetts, of which a beautiful copy has been presented by the author. A large number of volumes were received from the Cambridge Horticultural Society, some of which are of great value.

The continued use of the library and reading room during the past year shows that members appreciate these advantages.

Your Committee can only hope that each year may show increasing interest, and that the library may ever prove one of the most important means of usefulness to the Society.

For the Committee,

EDWARD S. RAND, Jr., *Chairman.*

LIBRARY ACCESSIONS IN 1875.

Books Purchased.

Torrey, John. Botany of the United States and Mexican Boundary Survey, 61 plates; and Engelmann, George M., Cactaceæ, 75 plates. 4to.

Curtis, William. Flora Londinensis; new edition, enlarged by George Graves and W. J. Hooker. 5 vols. folio, 660 colored plates.

Lindley, John, P. H. D., F. R. S., and Thomas Moore, F. L. S., The Nature printed Ferns of Great Britain and Ireland. Atlas folio, 51 colored plates.

Beddome, R. H. Ferns of British India. Thick 4to., 344 plates.

Jennings, Samuel. Orchids, and how to grow them in India and other Tropical Countries. 4to., 47 colored plates.

Bateman, James, F. R. S., F. L. S. A Monograph of Odontoglossum. Atlas folio, 30 colored plates.

Warner, Robert, F. L. S., F. R. H. S., and Benjamin S. Williams. Select Orchidaceous Plants; second series. Large folio, 39 colored plates.

Burbidge, F. W., and J. G. Baker. The Narcissus, its History and Culture. 8vo., 48 colored plates.

Thomas, John J. The Illustrated Register of Rural Affairs, vol. 7. 12mo.

Darwin, Charles. Insectivorous Plants. 8vo.

Sachs, Julius. Text Book of Botany, Morphological and Physiological; with notes by Bennett and Dyer. Royal 8vo.

Smith, James Edward, M. D., F. R. S., etc. Lachesis Lapponica, or a Tour in Lapland. From the Journal of Linnæus. 2 vols. in one, 8vo.

Gray, Asa. Manual of the Botany of the Northern United States; 5th edition. 8vo.

Mann, Horace. Enumeration of Hawaiian Plants. 8vo. pamphlet.

Books and Pamphlets Presented.

Gerarde, John. The Herball, or a Generall Historie of Plantes. Second Edition, enlarged and amended, by Thomas Johnson. Folio, pp. 1630. London, 1633. Andrew S. Fuller.

Browne, D. J. Sylva Americana. 8vo. Miss Miriam Parsons.

Emerson, George B., L.L.D. A Report of the Trees and Shrubs growing naturally in the Forests of Massachusetts. Second edition, 2 vols., large 8vo. Many plates, partly colored. The Author.

Henderson, Peter. Gardening for Pleasure. 12mo. The Author.

Fitch, Asa, M.D. Entomological Reports of New York. Vols. 3, 4, 5, 6, 7, 8, 9, in 2 vols., to complete the set. 8vo. T. L. Harison, Secretary of the New York State Agricultural Society.

Le Baron, William, M.D. Entomological Reports of Illinois, 1871, 2, 3, and 4, in 1 vol., 8vo. The Author.

Transactions of the Illinois Horticultural Society, 1860. To complete the set. 8vo. pamphlet. W. C. Flagg.

Transactions of the Illinois Horticultural Society for 1874. With Appendix, being the Fourth Annual Report on the Entomology of Illinois, by Dr. William Le Baron. 8vo. Arthur Bryant.

Transactions of the Alton Horticultural Society, 1863–64. 8vo. pamphlet. W. C. Flagg.

Fourteenth Annual Report of the Indiana Horticultural Society. 8vo. W. H. Ragan, Secretary.

Transactions of the Wisconsin Horticultural Society at Madison, February, 1875. 8vo. F. W. Case, Secretary.

Transactions of the Kansas Horticultural Society for 1873. 8vo. pamphlet. G. C. Brackett, Secretary.

Transactions of the Western New York Horticultural Society, January 6 and 7, 1875. 8vo. pamphlet. J. J. Thomas.

Transactions of the Worcester County Horticultural Society for 1874, with Prize Schedule for 1875. 8vo. pamphlet. E. W. Lincoln, Secretary.

Bulletin de la Société Centrale d'Horticulture du Department de la Seine-Inferieure. Vol. 16, Parts 1, 2, 3, 4; Vol. 17, Part 1. 5 pamphlets, 8vo. The Society.

Second Annual Report of the Maine Pomological Society. 8vo. G. B. Sawyer, Secretary.

Report of the Pennsylvania Fruit Growers' Society for 1873–4. 8vo. pamphlet. E. B. Engle, Secretary.

Transactions of the Northwestern Fruit Growers' Association, 1851 and 1855. 2 pamphlets, 8vo. W. C. Flagg.

Report of the Fruit Growers' Association of the Province of Ontario, with Report of the Entomological Society, for 1874. 8vo. pamphlet. Rev. Robert Burnet, President.

Second Annual Report of the Commissioners of Public Parks of New York, for 1871. 8vo. A. H. Green, Comptroller.

Fifth Annual Report of the Commissioners of Central Park, New York. 8vo. pamphlet. F. W. Andrews.

Reports of the South Park Commissioners of Cook County, Ill., for the Years 1872, '73, and '74. 3 pamphlets, 8vo. H. W. Harmon, Secretary.

First, Second, Third, and Fourth Annual Reports of the Commissioners of Fairmount Park, Philadelphia. 4 pamphlets, 8vo. R. H. Robbins, Secretary.

Report of the Commissioners of Public Grounds of the City of Worcester for 1874. 8vo. pamphlet. E. W. Lincoln, Chairman.

Plan and Description of the United States Centennial Exhibition, as proposed at Philadelphia, 1876. 8vo., plates and maps. N. E. Janney.

Proceedings of the South Carolina Agricultural and Mechanical Society, 1872. 8vo. pamphlet. D. W. Aiken.

Transactions of the Middlesex Agricultural Society for 1874, with Prize Schedule for 1875. 8vo. pamphlet. John B. Moore, Secretary.

Monthly Journal of the Maryland Agricultural Society. Vol. 1, Nos. 1 and 2. 2 pamphlets, 8vo. T. B. Dorsey, Secretary.

Address of A. G. Thurman before the Maryland Agricultural Society, October 8, 1874. 8vo. pamphlet. T. B. Dorsey.

Seventh and Eighth Annual Reports of the Connecticut State Agricultural Society, 1873 and 1874. 2 vols., 8vo. T. S. Gold, Secretary.

Report of the New Jersey Agricultural Society for 1874. 8vo. pamphlet. P. T. Quinn, Corresponding Secretary.

Twenty-Second Annual Report of the Massachusetts Board of Agriculture. Additional copies for distribution. 8vo. C. L. Flint, Secretary.

Abstract from Returns of Agricultural Societies in Massachusetts for 1845, to complete the set. 8vo. pamphlet. C. L. Flint.

Twelfth Annual Report of the Massachusetts Agricultural College. 50 additional copies for distribution. 8vo. pamphlet. W. S. Clark, President.

Clark, W. S. Observations on the Phenomena of Plant Life. 8vo. pamphlet. The Author.

Nineteenth Annual Report of the Maine State Board of Agriculture, including Reports of the Maine Pomological Society, County Societies, etc. 8vo. S. L. Boardman, Secretary.

Second Biennial Report of the Board of Agriculture, Manufactures, and Mining of the State of Vermont, for 1873–4. 8vo. C. G. Pringle.

Report of the Commissioner of the United States Department of Agriculture for 1872. 10 Copies. Report for 1873. 10 Copies. 8vo. The Department.

Catalogue of Plants collected in 1871, '72, and '73, in Nevada, Arizona, Colorado, and Utah, by Lieut. G. M. Wheeler. 8vo. pamphlet.

Farlow, W. G. The Potato Rot. 8vo. pamphlet. F. H. Appleton.

Bulletin of the Bussey Institute. Part 4. 1875. 8vo. pamphlet. The Institute.

Boston Society of Natural History: Memoirs, Vol. 2, Part 3, No. 5, and Part 4, No. 1. 2 pamphlets, 4to. Proceedings, Vol. 17, Parts 2 and 3. 2 pamphlets, 8vo. The Society.

Report of the Astor Library for 1874. 8vo. pamphlet. S. B. Ruggles, Secretary.

Reports of the University of Missouri for 1874 and 1875, 2 pamphlets, 8vo. G. C. Swallow.

Proceedings of the New England Historic Genealogical Society for 1874. 8vo. pamphlet. Marshall P. Wilder, President.

Proceedings of the American Antiquarian Society, Nos. 63 and 64. 2 pamphlets, 8vo. The Secretary.

Quincy, Josiah. Memoir of his Father, Josiah Quincy, Jr., 1744—1775. 8vo. Miss Eliza Susan Quincy.

The following fifty titles, comprising fifty-six volumes, are a donation from the Cambridge Horticultural Society:

Morton, John C. A Cyclopedia of Agriculture, Practical and Scientific. 2 vols., thick 8vo.

Emerson, Gouverneur. The American Farmer's Encyclopedia. Thick 8vo.

Stephens, Henry, F. R. S. C., and John P. Norton. The Farmer's Guide. 2 vols., thick 8vo.

Blake, Rev. John L., D. D. The Farmers' Every Day Book. 8vo.

Liebig, Baron Von. Letters on Modern Agriculture. 12mo.

Our Farm of Four Acres. With an Introduction by Peter B. Mead. 12mo.

Olcott, H. S. Outlines of the First Course of Yale Agricultural Lectures. 12mo.

Nash, J. A. The Progressive Farmer. 12mo.

Buel, Jesse. The Farmer's Companion. 12mo.

Walden, J. H., A. M. Soil Culture. 12mo.

Neill, Patrick, L. L. D., F. R. S. E., G. Emerson, M. D., and R. G. Pardee. The Practical Fruit, Flower, and Vegetable Gardener's Companion. 12mo.

Rural Manuals — House, Garden, Farm, and Domestic Animals; 4 vols. in one. 12mo.

Murray, Lady Charlotte. The British Garden, vol. 1. 8vo.

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Periodicals Taken.

English. — Gardener's Chronicle.
" Magazine.
Journal of Horticulture and Cottage Gardener.
The Garden.
Curtis' Botanical Magazine.
Floral Magazine.
Florist and Pomologist.
Floral World.
Journal of the Linnean Society.
Farmer's Magazine.
Country Gentleman's Magazine.
Journal of the Royal Agricultural Society.

French — Révue Horticole.

Belgian. — Illustration Horticole.
Flore des Serres.
Belgique Horticole.

American. — Gardener's Monthly.
Horticulturist.
California Horticulturist.
American Agriculturist.
Country Gentleman.
Rural New Yorker.
American Garden.
Rural Carolinian.
American Farmer.
Ladies' Floral Cabinet.
Silliman's Journal.
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Periodicals Presented.

New England Farmer.
Massachusetts Ploughman.
Boston Cultivator.
Gardener's Monthly.
American Rural Home.
Maine Farmer.
Canada Farmer.
Prairie Farmer.
Maryland Farmer.
Rural Southerner.
Western Agriculturist.
Center Union Agriculturist.
Monthly Report of the Department of Agriculture.
Bulletin of the Essex Institute.
Bulletin of the Torrey Botanical Club.
Patent Right Gazette.
New York Semi-Weekly Tribune.
Rhode Island Press.
Boston Evening Transcript.
Boston Daily Globe.
Daily Evening Traveller.
Boston Morning Journal.
The Nursery.
The Cottage Hearth.

TREASURER'S REPORT,

FOR THE YEAR 1875.

ITEMS OF INCOME.

Balance of Cash on Hand,	$1,104 70
Received for Rent of Stores,	12,899 93
" " " Halls,	11,898 33
" " Admissions and Assessments,	1,270 00
" from Mount Auburn Cemetery,	2,962 85
Gross Receipts of Annual Exhibition,	590 00
Sale of Tickets to Festival,	402 00
Donation by Peter Smith, for Prizes,	50 00
	$31,177 81

ITEMS OF EXPENDITURE.

Salaries of Treasurer, Chairmen of Committees, and Recording Secretary,	$2,475 00	
Compensation of Editor,	1,000 00	
Library Accessions,	1,285 00	
Heating and Water, less paid by tenants,	536 91	
Stationery, Postage, and Printing,	1,747 22	
Alterations and Repairs on Building,	2,083 03	
Gas,	1,288 94	
New Furniture and Repairs,	210 70	
Expenses of Annual Exhibition,	1,591 51	
Expenses of Festival,	809 75	
Taxes,	3,699 00	
Interest,	3,534 55	
Reduction of Mortgage debt,	6,000 00	
Testimonial to Ex-President Strong,	150 00	
Medals,	164 25	
Balance of Prizes for 1874,	739 43	
Deposited on account of Prizes for 1875,	1,500 00	
Incidental Expenses,	1,945 88	
Balance to New Account,	416 64	
		$31,177 81

Boston, January 6, 1876.

We have examined the above account and found it correct, and the balance of cash on hand, four hundred and sixteen dollars and sixty-four cents, as stated.

Signed,

C. O. Whitmore,
H. H. Hunnewell,
B. P. Cheney,
} *Finance Committee.*

ASSETS AND LIABILITIES.

Assets.

Real Estate and Furniture, costing		$255,508 22
Exhibition Ware, costing,		907 29
Library last year,	$13,510 60	
Added this year,	1,285 00	
		$14,795 60
		$271,211 11
Add Bonds of the C. B. & Q. Railroad, par value,		1,500 00
Total,		$272,711 11

Liabilities.

Mortgage debt, at 5½ per cent., payable September, 1883,	$60,000 00	
Loan without interest, payable to Harvard College, in 1899,	12,000 00	
		$72,000 00
Balance of Assets over Liabilities, not including works of art,		$200,711 11

By the last report our membership numbered		1,032
Of these were Life Members,	569	
Added by election,	11	
" " commutation,	3	
	583	
Deceased,	6	
		577

Brought over (*life members*), . . .			577
Annual members, ...		463	
Added, ...		19	
		482	
Deceased, ...	10		
Discontinued, ...	11		
Commuted, ...	3		
	—	24	
		—	458
			1,035

Income from the above: —

11 Life, ...	$330
19 Annual, ...	190
3 Commutations, . . .	60
345 Subscriptions, . . .	690
	$1,270,

A less sum than last year, but fair when we consider the condition of business matters.

Our income from Mount Auburn is even less than that reported last year; this is accounted for by large expenditures in improvements, for a statement of which see the report of the treasurer of that corporation, which follows this.

The stores are occupied as last year, by a renewal of leases, yielding an increase of rent.

The rent of Halls shows an increase of thirty-three per cent. over that of last year; a pleasing result not warranted by indications early in the season. May we not fairly assume this to be an index of public favor, and a proof of the high estimation in which our Halls and accommodations are held?

The receipts from the Annual Exhibition, and the Festival which followed it, when taken from the expenses, left a larger deficit than usual. The Festival, in its form, was an experiment untried for many years, and was not fully understood or appreciated, but, with this experience, we may improve.

The item of alterations and repairs is larger than ever before. Ten years of wear and decay, rendered necessary considerable outlay in our basement stores, for new floors, stairs, etc., but the greater part of these expenditures was on the roof and in the

storage loft. To detail the nature and extent of these operations, would extend this report unduly. However costly, they were deemed to be necessary for the security and well-being of the building.

The Library, Exhibitions, Discussions, etc., have been well and fully treated in the reports of the several committees, yet, as Superintendent and Librarian, I may be permitted to refer to them as having an important influence in creating an interest in the work of the Society, and in promoting an increased attendance. The plan of essays and discussions is comparatively new; the winter exhibitions especially, were never before so large and rare, and the usefulness of the library increases in a manifold degree with its growth. Fruits, plants, and flowers brought for names are gladly received, and, if in proper condition, are generally traced to identification. All this is legitimate work, and in proportion to its faithful performance will be our usefulness. I repeat, the library is always accessible, and our rooms, where all are invited to attend, are open during business hours. This invitation is again extended to the friends of horticulture from abroad.

E. W. BUSWELL, *Treasurer.*

Boston, Jan. 6, 1876.

Dr. *Massachusetts Horticultural Society, in account with the Proprietors of the Cemetery of Mt. Auburn.* **Cr.**

For Sales and Improvements within the Cemetery, for the year ending Dec. 31, 1875.

Cost of filling up and improving land at Mt. Auburn, unsalable or unfit for burial purposes; new Iron Fence and Wooden Fence on Stone Farm; for the year ending Dec. 31, 1875; the Massachusetts Horticultural Society being charged with their proportion of the same.			By Sales in January,		
Grading near Haleyon and Fountain Avennes,	$384 75		" " February,	725 00	
" between Fountain and Lime Avenues,	879 62		" " April,	1,814 00	
" Indian Ridge,	956 81		" " May,	1,939 50	
" Ostrich Path,	109 68		" " June,	2,686 00	
" Eagle, Swan, Circuit and Falcon Avenues, and land adjoining,	5,306 06		" " July,	3,237 50	
Expended on New Receiving Tomb,	350 51		" " August,	2,494 00	
New Iron Fence on Stone Farm,	10,562 12		" " September,	3,878 00	
" Wooden Fence on Stone Farm, West line,	923 54		" " October,	5,988 00	
			" " November,	3,696 00	
One-quarter of	$19,473 09	$4,868 27	" " December,	4,191 50	
Balance due Massachusetts Horticultural Society,		2,962 85		$32,724 50	
		$7,831 12	Deduct for Annual Expense as per Charter,	1,400 00	
			Mass. Horticultural Society, one-fourth part of	$31,324 50	$7,831 12
					$7,831 12

E. & O. E.

Boston, December 31, 1875.

H. B. Mackintosh, *Treasurer.*

MOUNT AUBURN CEMETERY CORPORATION,
Office, No. 16 PEMBERTON SQUARE.

BOSTON, Dec. 31, 1875.

GENTLEMEN: Enclosed please find copy of improvements, etc., for the year 1875, as rendered by the Superintendent of Mount Auburn Cemetery, showing in detail the charges rendered in my account with the Massachusetts Horticultural Society for the year 1875.

Very respectfully, your obedient servant,

H. B. MACKINTOSH, *Treasurer.*

To Messrs. C. O. WHITMORE and H. H. HUNNEWELL,
Finance Committee Mass. Hort. Society.

MASSACHUSETTS HORTICULTURAL SOCIETY,

To The Proprietors of the Cemetery of Mount Auburn, *Dr.*

For one-fourth (¼) of the following expenditures for grading land for sale, and fencing during the year 1875: —

1875.			
Nov. 15.	*New Iron Fence around Stone Farm.*		
	Cook, Rymes & Co., bill for fence,	$10,300 00	
	Grading, 52½ days, men,	118 12	
	32 " horse and man,	144 00	
			$10,562 12
Jan. 30.	*New Receiving Tomb.*		
	C. McArthur's bill: carpenter work, $28.39; glass for door, $5.83; putty, 18 c.	34 40	
	35 lbs. paint, 5.25; 4¼ days painting, 9.56; canvas, 3.64,	18 45	
	3 days, masons setting steps, 9.75; 11¼ days, carpenter on cupola, etc., 36.56,	46 31	
	J. G. Gooch's bill: lumber, 34.40; Gale & Wood, do. do. 9.68,	44 08	
	Top to cupola, 75 c.; hardware, 1.23; 1,259 feet sods, 31.48,	33 46	
Aug. 31.			
	57¾ days, men grading,	129 94	
	9¾ " man and horse,	43 87	
			350 51
	Amount carried forward,		$10,912 63

	Amount brought forward,		$10,912 63
Sept. 30.	*Grading, near Halcyon and Fountain Avenues.*		
97 days, men,		218 25	
37 " man and horse,		166 50	
			384 75
June 30.	*Grading, between Fountain and Lime Avenues.*		
M. Fallon's bill: carting 1,543 yards of earth from Stone Farm, near new fence line, and filling hollow,		385 75	
70 days, men grading,		157 50	
74¾ " man and horse,		336 37	
			879 62
Oct. 30.	*Indian Ridge, Grading.*		
349¾ days, men,		786 94	
37¾ " man and horse,		169 87	
			956 81
Feb. 27.	*Ostrich Path, Grading.*		
23¼ days, men,		52 31	
12¾ " man and horse,		57 37	
			109 68
June 30.	*Wooden Fence on West line Stone Farm.*		
C. McArthur's carpenter's bill, 665.62; 660 lbs. mixed paint, 54.46,		720 08	
40½ days, painter, 91.12; labor, digging post-holes, 18.40,		109 52	
25¾ days, men grading,		57 94	
8 " man and horse,		36 00	
			923 54
Dec. 31.	*Eagle, Swan, Circuit and Falcon Av's & land adjoining.*		
1,113¾ days, men grading,		2,505 94	
622¼ " men and horse,		2,800 12	
			5,306 06
	Total amount for 1875, ...		19,473 09
	One-fourth part is		$4,868 27

Mt. Auburn, Dec. 31, 1875.

J. W. Lovering, *Supt.*

I certify the foregoing to be a true copy of accounts of improvements for the year 1875, rendered by the Superintendent.

H. B. Mackintosh, *Treasurer.*

Massachusetts Horticultural Society.

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JOHN ROBINSON, of Salem.

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Ashton Yates, Liverpool.

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*Isaac Cox Barnet, late U. S. Consul, Paris.
Patrick Barry, Chairman of the General Fruit Committee of the American Pomological Society, Rochester, N. Y.
Augustin Baumann, Bolwiller, France.
Eugéne Achille Baumann, Bolwiller, France.
Joseph Bernard Baumann, Bolwiller, France.
Napoleon Baumann, Bolwiller, France.
D. W. Beadle, St. Catherines, Canada West.
W. J. Beal, Lansing, Michigan.
*Noel J. Becar, Brooklyn, N. Y.
*Edward Beck, Worton College, Isleworth, near London.
Rev. Henry Ward Beecher, Brooklyn, N. Y.
Louis Edouard Berckmans, Rome, Ga.
Prosper J. Berckmans, Augusta, Ga.
*Alexandre Bivort, late Secrétaire Général de la Société Van Mons, Fleurus, Belgique.
Mons. Tripet le Blanc, Paris.
Charles D. Bragdon.
*William D. Brincklé, M. D., Philadelphia.
John W. Brown, Fort Gaines, Ga.
Dr. Nehemiah Brush, East Florida.
Arthur Bryant, Sr., Ex-President of the Illinois State Horticultural Society, Princeton, Ill.
Robert Buist, Philadelphia.
*E. W. Bull, Hartford, Conn.
Rev. Robert Burnet, President of the Ontario Fruit Growers' Association, Hamilton, Canada West.
Alexander Burton, Cadiz.
George W. Campbell, Delaware, Ohio.

Francis G. Carnes, New York.
*Robert Carr, Philadelphia.
James Colvill, Chelsea, England.
*Rev. Henry Colman, Boston.
Benjamin E. Cotting, M. D., Boston.
*S. L. Dana, M. D., Lowell.
J. Decaisne, Professeur de Culture au Muséum d'Histoire Naturelle, Jardin des Plantes, Paris.
James Deering, Portland, Me.
*H. F. Dickehut.
*Sir C. Wentworth Dilke, Bart., London.,
Hon. Allen W. Dodge, Hamilton, Mass.
Rev. H. Honywood Dombrain, A. B., Ashford, Kent, England.
*A. J. Downing, Newburg, N. Y.
Charles Downing, Newburg, N. Y.
Parker Earle, South Pass, Ill.
F. R. Elliott, Ex-Secretary of the American Pomological Society, Cleveland, O.
Hon. Henry L. Ellsworth, Washington.
George Ellwanger, Rochester, N. Y.
George B. Emerson, LL. D., Winthrop.
Ebenezer Emmons, M. D., Williamstown.
*A. H. Ernst, Cincinnati.
*Nathaniel Fellows, Cuba.
*Henry J. Finn, Newport, R. I.
W. C. Flagg, Ex-President of the Illinois State Horticultural Society, Moro, Ill.
*Michael Floy, late Vice-President of the New York Horticultural Society, New York City.
William R. Foster, Baltimore.
John Fox, Washington, D. C.
*Hon. Russell Freeman, Sandwich.
Andrew S. Fuller, Ridgewood, N. J.
Henry Weld Fuller, Roxbury.
R. W. Furnas, Ex-President of the Nebraska State Horticultural Society, Brownsville, Neb.
Augustus Gande, President of the Horticultural Society, Department of Sarthe.
*Robert H. Gardiner, Gardiner, Me.
*Benjamin Gardner, late U. S. Consul at Palermo.
*Capt. James P. Gerry, U. S. Navy.
*Abraham P. Gibson, late U. S. Consul at St. Petersburg.
*R. Glendenning, Chiswick, near London.
Prof. Asa Gray, Cambridge.
O. B. Hadwen, Ex-President of the Worcester County Horticultural Society, Worcester.
*Charles Henry Hall, New York.

*Abraham Halsey, New York.
Dr. Charles C. Hamilton, Ex-President of the Fruit Growers' Association and International Show Society of Nova Scotia, Cornwallis.
*Rev. Thaddeus Mason Harris, D. D., Dorchester.
*Thaddeus William Harris, M. D., Cambridge.
*John Hay, Architect of the Caledonian Horticultural Society.
*Isaac Head, Cincinnati.
Bernard Henry, Philadelphia.
Shirley Hibberd, Editor of the Gardener's Magazine, London.
J. J. Hitchcock, Baltimore.
Robert Hogg, LL. D., Editor of the Journal of Horticulture, London.
*Thomas Hogg, New York.
Thomas Hogg, New York.
J. C. Holding, Ex-Treasurer and Secretary of the Cape of Good Hope Agricultural Society, Cape Town, Africa.
Rev. S. Reynolds Hole, Caunton Manor, Newark, Nottinghamshire, England.
Fisher Holmes.
Josiah Hoopes, West Chester, Pa.
Prof. E. N. Horsford, Cambridge.
Sanford Howard, Chicago, Ill.
Dr. William M. Howsley, President of the Kansas State Horticultural Society, Leavenworth.
Isaac Hunter, Baltimore.
George Husmann, Hermann, Mo.
Thomas P. James, Cambridge.
Edward Jarvis, M. D., Dorchester.
William J. Johnson, M. D., Fort Gaines, Ga.
Samuel Kneeland, M. D., Boston.
Mons. Laffay, Bellevue, near Paris, France.
David Landreth, Ex-Corresponding Secretary of the Pennsylvania Horticultural Society, Bristol, Pa.
C. C. Langdon, Mobile, Alabama.
Dr. William Le Baron, State Entomologist, Geneva, Ill.
G. F. B. Leighton, President of the Norfolk Horticultural and Pomological Society, Norfolk, Va.
*E. S. H. Leonard, M. D., Providence.
*André Leroy, Author of the Dictionnaire de Pomologie, Angers, France.
Hon. George Lunt, Boston.
*F. W. Macondray, San Francisco, Cal.
*James J. Mapes, LL.D., Newark, N. J.
*A. Mas, late President of the Horticultural Society, Bourg-en-Bresse, France.
Dr. Maxwell T. Masters, Editor of the Gardener's Chronicle, London.
*James Maury, late U. S. Consul, Liverpool.
T. C. Maxwell, Geneva, N. Y.

THOMAS MEEHAN, Editor of the Gardener's Monthly, Germantown, Pa.
*ALLEN MELVILLE, New York.
JOHN MILLER, M. D., Secretary of the Horticultural and Agricultural Society, Jamaica.
STEPHEN MILLS, Flushing, N. Y.
*CHARLES M'INTOSH, Dalkeith Palace, near Edinburgh.
J. E. MITCHELL, Philadelphia.
WILLIAM S. M'LEAN, New York.
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*HORATIO NEWHALL, M. D., Galena, Ill.
*DAVID W. OFFLEY, U. S. Agent, Smyrna.
JAMES OMBROSI, U. S. Consul, Florence.
JOHN J. PALMER, New York.
VICTOR PAQUET, Paris.
*JOHN W. PARKER, late U. S. Consul, Amsterdam.
*ANDREW PARMENTIER, Brooklyn, N. Y.
WILLIAM PAUL, Waltham Cross, London, N.
*SIR JOSEPH PAXTON, M. P., Chatsworth, England.
*JOHN L. PAYSON, late U. S. Consul, Messina.
*COM. M. C. PERRY, U. S. Navy.
*DAVID PORTER, late U. S. Chargé d'Affaires at the Ottoman Porte.
*ALFRED S. PRINCE, Flushing, N. Y.
*WILLIAM R. PRINCE, Flushing, N. Y.
P. T. QUINN, Newark, N. J.
REV. RUSHTON RADCLYFFE.
*WILLIAM FOSTER REDDING, Baltimore.
DR. D. REDMOND, Pass Christian, Miss.
M. D. REYNOLDS, Schenectady, N. Y.
*JOHN H. RICHARDS, M. D., Illinois.
CHARLES V. RILEY, State Entomologist, St. Louis, Mo.
*MONS. J. RINZ, JR., Frankfort-on-the-Main.
THOMAS RIVERS, Sawbridgeworth, Herts, England.
WILLIAM ROBINSON, Editor of The Garden, London.
DR. J. SMYTH ROGERS, Hartford, Conn.
CAPT. WILLIAM S. ROGERS, U. S. Navy.
BERNARD ROSIER, M. D., Athens, Greece.
*THOMAS ROTCH, Philadelphia.
*GEORGE R. RUSSELL, Roxbury.
JOHN B. RUSSELL, Department of Agriculture, Washington, D. C.
*REV. JOHN LEWIS RUSSELL, Salem.
WILLIAM SAUNDERS, Department of Agriculture, Washington, D. C.
*WILLIAM SHALER, late U. S. Consul-General, Havana, Cuba.
WILLIAM SHAW, New York.
*CALEB R. SMITH, New Jersey.
DANIEL D. SMITH, Burlington, N. J.
*GIDEON B. SMITH, late Editor of the American Farmer, Baltimore.
*HORATIO SPRAGUE, late U. S. Consul, Gibraltar.

Robert W. Starr, Cornwallis, Nova Scotia, President of the Fruit Growers' Association and International Show Society, Halifax.
Dr. John Stayman, Leavenworth, Kansas.
*Thomas H. Stevens, U. S. Navy, Middletown, Conn.
William F. Strangeway, British Secretary of Legation at Naples.
Dr. J. Strentzel, Martinez, Cal.
*James P. Sturgis, Canton.
William Summer, Pomaria, S. C.
Francis Summerest.
*Prof. Tenore, late Director of the Botanic Garden at Naples.
*J. E. Teschemacher, Boston.
*Robert Thompson, London.
*George C. Thorburn, New York.
Prof. George Thurber, Editor of the American Agriculturist, New York.
John Tillson, Jr., Illinois.
Cav. Doct. Vincent Tinio, Director of the Botanic Garden at Palermo.
*Luther Tucker, Editor of The Cultivator, Albany, N. Y.
Carey Tyso, Wallingford, England.
Louis Van Houtte, Ghent, Belgium.
*Alexandre Vattemare, Paris.
Emilien de Wael, Antwerp, Belgium.
John A. Warder, M. D., President of the Ohio State Horticultural Society, Cleves, O.
Anthony Waterer, Knapp Hill, near Woking, Surrey, England.
J. Ambrose Wight, Editor of the Prairie Farmer, Chicago, Ill.
Benjamin Samuel Williams, Holloway, London, N.
Prof. John Wilson, Agricultural College, Cirencester, England.
*William Wilson, New York.
J. F. Wingate, Bath, Me.
Joshua Wingate, Portland.
Joseph A. Winthrop, South Carolina.

MEMBERS FOR LIFE.

Change of residence, or any inaccuracies, should be promptly reported to the Secretary.

Adams, George E.,	Medford.	Bates, Amos,	Hingham.
Albro, Charles,	Taunton.	Bates, Caleb,	Kingston.
Alger, R. F.,	Dedham.	Bayley, John P.,	Boston.
Allen, John Fisk,	Salem.	Beal, Alexander,	Dorchester.
Ames, F. L.,	Easton.	Bell, Joseph H.,	Phila., Pa.
Ames, F. M.,	Canton.	Bemis, Emery,	Cambridge.
Ames, George,	Boston.	Berry, James,	Boston.
Ames, P. A.,	"	Bickford, Weare D.,	Allston.
Amory, Charles,	"	Birchard, Charles,	Arlington.
Amory, Frederick,	Brookline.	Black, J. W.,	Boston.
Amory, James S.,	Boston.	Blagg, Samuel,	Newbern, N. C.
Andrews, Charles L.,	Swampscott.	Blanchard, J.W., Jr.,	Boston.
Andrews, Frank W.,	Boston.	Blaney, Henry,	Brookline.
Andrews, W. T.,	"	Blinn, R. D.,	Lexington.
Andros, Milton,	Brookline.	Bocher, F.,	Boston.
Appleton, Edward,	Reading.	Bockus, C. E.,	Dorchester.
Appleton, Francis H.,	West Peabody.	Bond, George W.,	Boston.
Appleton, Wm. S.,	Boston.	Borland, J. N.,	"
Atkins, Elisha,	Belmont.	Botume, John,	Stoneham.
Austin, William R.,	Dorchester.	Bouvé, Thomas T.,	Boston.
Avery, Edward,	Boston.	Bowditch, A. C.,	Somerville.
Ayer, Adams,	"	Bowditch, J. Ingersoll	Boston.
Ayling, Isaac,	"	Brackett, C. H.,	Brighton.
		Brackett, C. N.,	Newton.
Bacon, George,	Brookline.	Bradish, L. J.,	Boston.
Bailey, Edwin C.,	Boston.	Bragg, S. A. B.,	Mattapan.
Baker, Wm. E.,	"	Breed, Andrews,	Lancaster.
Banfield, F. L.,	"	Breed, Henry A.,	Lynn.
Barnard, Rev. C. F.,	"	Bresee, Albert,	Hortonville, Vt.
Barnard, James M.,	"	Brewer, John Reed,	Boston.
Barnes, Walter S.,	Somerville.	Brewer, Otis,	"
Barnes, Wm. H.,	Boston.	Brigham, W. T.,	"
Barney, Levi C ,	"	Bright, Jona. B.,	Waltham.
Barratt, James,	Cambridge.	Bright, William E.,	"
Barrett, Aaron,	Malden.	Brimmer, Martin,	Boston.
Barrows, Thomas,	Dedham.	Brintnall, Benj.,	"
Bartlett, E.,	Newburyport.	Brooks, Francis,	Medford.

Brooks, J. W.,	Milton.	Clark, W. L.,	Neponset.
Brooks, Peter C.,	Boston.	Clark, Wm. S.,	Amherst.
Brown, Charles E.,	Yarmouth, N.S.	Clarke, Miss Cora H.,	Jamaica Plain.
Brown, Edward J.,	Brookline.	Clay, Henry,	Dorchester.
Brown, G. Barnard,	Boston.	Cleary, Lawrence,	West Roxbury.
Brown, George B.,	"	Clement, Asa,	Dracut.
Brownell, E. S.,	Essex Junc., Vt.	Cleveland, Ira,	Dedham.
Bruce, N. F.,	Stoneham.	Cobb, Albert A.,	Brookline.
Buckminster, W. J.,	Malden.	Coburn, Isaac E.,	Everett.
Bullard, Wm. S.,	Boston.	Codman, James M.,	Brookline.
Burnham, T. O. H. P.,	"	Codman, Ogden,	Lincoln.
Burnett, Joseph,	Southborough.	Coffin, G. Winthrop,	West Roxbury.
Burr, Fearing,	Hingham.	Coffin, Wm. E.,	Boston.
Burr, Matthew H.,	"	Comer, G. N.,	Dedham.
Buswell, E. W.,	Boston.	Converse, E. S.,	Malden.
Buswell, Mrs. E. W.,	"	Coolidge, Joshua,	Watertown.
Buswell, Frank E.,	"	Copeland, Franklin,	West Dedham.
Butler, Aaron, Jr.,	Wakefield.	Cormerais, Henry,	Dedham.
Butterfield, Wm. P.,	Arlington.	Courtis, William,	Lawrence.
		Cox, George P.,	Malden.
Cadness, John,	Flushing, N. Y.	Coy, Samuel I.,	Boston.
Cains, William,	South Boston.	Craft, George,	Brookline.
Calder, A. P.,	Boston.	Crocker, Uriel,	Boston.
Capen, John,	"	Crosby, Josiah,	Arlington.
Carlton, Samuel A.,	Somerville.	Crowell, Philander,	Chelsea.
Carruth, Charles,	Boston.	Crowell, R. H.,	"
Carruth, Nathan,	Dorchester.	Cruickshanks, James,	"
Carter, Miss Sabra,	Wilmington.	Cummings, John,	Woburn.
Chamberlain, C. W.,	Arlington.	Curtis, Chas. F.,	West Roxbury.
Chandler, J. G.,	S. Lancaster.	Curtis, George S.,	Jamaica Plain.
Chapin, N. G.,	Brookline.	Cushing, J. G.,	Boston.
Chapman, Edward,	Arlington.	Cushing, R. M.,	"
Chase, A. J.,	Lynn.		
Chase, Daniel E.,	Somerville.	Daggett, H. L.,	Boston.
Chase, Hezekiah S.,	Boston.	Damon, Samuel G.,	Arlington.
Chase, William M.,	Worcester.	Dana, Charles B.,	Brookline.
Cheney, B. P.,	Boston.	Darling, Charles K.,	Boston.
Child, F. J.,	Cambridge.	Davenport, Edward,	Dorchester.
Child, Wm. C.,	Medford.	Davenport, Henry,	Boston.
Childs, Francis,	Charlestown.	Davis, Curtis,	Cambridge.
Childs, N. R.,	Dorchester.	Davis, Hervey,	Cambridgeport.
Claflin, Henry,	Brighton.	Dawson, Jackson,	West Roxbury.
Claflin, Wm.,	Newton.	Deblois, S. G.,	Boston.
Clapp, E. W.,	Walpole.	Denny, C. H.,	"
Clapp, Lemuel,	Dorchester.	Denny, R. S.,	Dorchester.
Clapp, Wm. C.,	"	Denton, Eben,	Braintree.
Clark, Orus,	Boston.	DeWolf, John L.,	Boston.

Dewson, F. A.,	Boston.	French, J. D. W.,	Boston
Dexter, F. Gordon,	"	Fuller, Henry Weld,	"
Dickerman, Geo. H.,	Somerville.		
Dickinson, Alex.,	Cambridgeport.	Galvin, John,	West Roxbury.
Dike, Charles C.,	Stoneham.	Gardner, Henry N.,	Belmont.
Dix, Joseph,	Boston.	Gibbs, Wolcott,	Cambridge.
Dorr, George,	Dorchester.	Gilkey, R. F.,	Watertown.
Dove, Miss Clara W.,	Andover.	Gillard, William,	Boston.
Dove, Geo. W. W.,	"	Gilley, J. E. M.,	Chelsea.
Downer, Samuel,	Dorchester.	Gilson, F. Howard,	Reading.
Durant, H. F.,	Boston.	Glover, Albert,	Boston.
Durant, William,	"	Glover, Joseph B.,	"
Durfee, Mrs. F. B.,	Fall River.	Goddard, A. Warren,	Brookline.
Durfee, George B.,	"	Goddard, Mrs. M. T.,	Newton.
Durfee, Nathan,	"	Gorham, J. L.,	Jamaica Plain.
Dyer, N. N.,	So. Abington.	Gould, Francis,	Arlington.
		Gould, Samuel,	Boston.
Eaton, Horace,	Quincy.	Gray, James,	Wellesley.
Eldridge, E. H.,	Boston.	Gregory, J. J. H.,	Marblehead.
Ellicott, J. P.,	Jamaica Plain.	Greig, George,	Newton.
Endicott, Wm. E.,	Canton.	Grinnell, Joseph,	New Bedford.
Everett, George,	Concord.	Groom, Thomas,	Dorchester.
Everett, Otis,	Boston.	Grundel, H.,	"
Everett, William,	"	Guild, J. Anson,	Brookline.
Farlow, John S.,	Newton.	Hall, Edwin A.,	Cambridgeport.
Faxon, John,	Quincy.	Hall, George A.,	Chelsea.
Fay, Mrs. R. L.,	Chelsea.	Hall, George R.,	Boston.
Fenno, J. B.,	Boston.	Hall, John R.,	"
Fenno, Joseph H.,	Revere.	Hall, Lewis,	Cambridge.
Feukes, Edwin,	Ipswich.	Hall, Stephen A.,	Revere.
Fillebrown, John,	Arlington.	Hall, William F.	Brookline.
Fisher, James,	Boston.	Halliday, W. H.,	Boston.
Fisher, Warren,	"	Hammond, Gard. G.,	"
Flagg, Augustus,	"	Hammond, Samuel,	"
Fleming, Edwin,	West Newton.	Harding, C. L.,	Cambridge.
Fleming, William,	" "	Harding, G. W.,	Dorchester.
Fletcher, J. W.,	Chelsea.	Harding, L. B.,	Boston.
Flint, Charles L.,	Boston.	Harding, W. C.,	"
Flint, D. B.,	Watertown.	Hardy, F. D., Jr.,	Cambridgeport.
Flynt, William N.,	Monson.	Harris, Charles,	Cambridge.
Foster, John H.,	Boston.	Hastings, Edm. T.,	Boston.
Foster, J. W.,	Dorchester.	Hathaway, Seth W.,	Marblehead.
Fowle, W. B.,	Auburndale.	Hatch, Anthony,	Cliftondale.
Freeland, Chas. Wm.,	Boston.	Haughton, James,	Boston.
Freeman, Abraham,	Dorchester.	Hayden, A. W.,	Portsm'th, N.H.
French, Jonathan,	Boston.	Hayes, Daniel F.,	Exeter, N. H.

Hayes, Francis B., Boston.
Hazeltine, H., "
Head, Charles D., Brookline.
Hilbourn, A. J., Chelsea.
Hill, George, Arlington.
Hill, John, Stoneham.
Hitchings, E. H., Boston.
Hodgkins, John E., Chelsea.
Hollis, J. W., Brighton.
Hooper, F. A., Marblehead.
Hooper, Robert C., Boston.
Hooper, Thomas, Bridgewater.
Horner, Mrs.C. N. S., Georgetown.
Hovey, C. H., Cambridge.
Hovey, C. M., "
Hovey, John C., Cambridgeport.
Hovey, P. B., "
Howard, Joseph W., South Boston.
Howe, George, Boston.
Howland, John, Jr., New Bedford.
Hubbard, Charles T., Boston.
Hubbard, G. G., Cambridge.
Hubbard, J. C., Boston.
Hubbard, W. J., "
Huckins, J. W., "
Humphrey, F. J., Dorchester.
Hunneman, Jos. H., Boston.
Hunnewell, H. H., Wellesley.
Hunt, Franklin, Boston.
Hunt, Moses, "
Hyde, J. F. C., Newton.

Inches, Henderson, Boston.
Inches, Herman B., "

Jackson, Abraham, Boston.
Janvrin, W. S., Revere.
Jeffries, John, Jr., Boston.
Jenks, C. W., "
Joyce, Mrs. Samuel, Medford.

Kakas, Edward, Medford.
Kelley, E. G., Newburyport.
Kendall, D. S., Boston.
Kendall, Edward, Cambridgeport.
Kendall, J. R., Woburn.
Kendrick, Mrs.H. P., Allston.
Kennedy, G. G., Boston.
Kenney, John M., Wareham.
Kent, John, Charlestown.
Keyes, E. W., "
Keyes, George, Concord.
Kidder, H. P., Boston.
Kimball, A. P., "
King, Franklin, Dorchester.
King, William S., Boston.
Kingman, A. A., Brookline.
Kingman, C. D., Middleborough.
Kinsley, Lyman, Cambridgeport.
Kittredge, E. A., Boston.

Lamb, Thomas, Boston.
Lancaster, C. B., Newton.
Lawrence, Amos A., Brookline.
Lawrence, Edward, Charlestown.
Lawrence, James, Boston.
Lawrence, John, "
Lawson, Peter, Lowell.
Leavens, S. Davis, Boston.
Lee, Henry, "
Lemme, Frederick, No. Cambridge.
Leuchars, R. B., Boston.
Lewis, A. S., Framingham.
Lewis, William G., "
Lincoln, D. Waldo, Worcester.
Lincoln, George, Hingham.
Locke, W. H., Belmont.
Lodge, Giles H., Swampscott.
Loftus, John P., Boston.
Loomis, J. B., Chelsea.
Lord, George C., Newton.
Loring, Alfred, South Hingham.
Loring, C. W., Boston.
Lothrop, Eben. W., Chelsea.
Lovett, G. L., Boston.
Low, Ariel, "
Lowder, John, Watertown.
Lowell, Augustus, Boston.
Luke, Elijah H., Cambridgeport.
Lumb, Wm., Boston.
Lunt, C. H., Jamaica Plain.
Lyman, Theodore, Brookline.
Lyon, Henry, Charlestown.

Mahoney, John, Boston.
Maloon, William, Salem.
Mann, James F., Cambridge.
Mann, Jonathan, "
Manning, J. W., Reading.
Manning, Mrs. L. B., "
Manning, Robert, Salem.
Mansfield, H. S., Blackstone.
Marland, A., Andover.
Marsh, Francis, Dedham.
Martin, D. A., Chelsea.
Martin, J. S., Boston.
Mason, R. M., "
Matthews, Nathan, "
McCarthy, T., "
McClure, John, Revere.
Merriam, M. H., Lexington.
Merrifield, W. T., Worcester.
Miller, E. D., Dorchester.
Millmore, M., Boston.
Mills, Charles H., "
Milton, W. H., "
Minott, Charles, Somerville.
Minton, James, Dorchester.
Mixter, Charles, Boston.
Moore, John B., Concord.
Morrill, Joseph, Jr., Boston.
Morse, S. B., "
Morse, Samuel F., "
Motley, Thomas, West Roxbury.
Mudge, E. R., Swampscott.
Mudge, George A., Brookline.
Mudge, George W., Lynn.
Munroe, Otis, Boston.
Munroe, William, "

Needham, Daniel, Groton.
Newhall, Cheever, Dorchester.
Newhall, George, "
Newhall, Josiah, Lynnfield.
Newman, J. R., Winchester.
Newton, W. W., Brookline.
Nichols, Mrs. F., Dorchester.
Nourse, Benjamin F., Cambridgeport.
Nourse, B. F., Boston.

Osgood, Jas. Ripley, Boston.

Otis, T. C., Boston.
Oxnard, George D., "

Packer, C. H., Boston.
Page, Thomas, Milwaukee.
Paine, Robert T., Boston.
Palmer, J. P., "
Park, J. C., Somerville.
Parker, Augustus, Boston.
Parker, James, "
Parker, William A., "
Parkman, Francis, Jamaica Plain.
Partridge, Henry, Dunkirk, N. Y.
Partridge, Horace, Somerville.
Pearce, John, West Roxbury.
Peck, O. H., Franklin.
Peck, W. G., Arlington.
Penniman, A. P., Waltham.
Perkins, Augustus T., Boston.
Perkins, Edward N., Brookline.
Perkins, William P., "
Perry, George W., Malden.
Philbrick, William D., Newton Centre.
Pierce, George W., Everett.
Pierce, Henry L., Dorchester.
Pierce, S. B., "
Poole, Benjamin C., Chelsea.
Poor, John R., Somerville.
Pope, Alexander, Dorchester.
Potter, Joseph S., Arlington.
Prang, L., Boston.
Pratt, George W., "
Pratt, Robert M., "
Pratt, William, Winchester.
Pray, Mark W., Malden.
Prescott, C. H., Cornwallis, N. S.
Prescott, Eben. C., Boston.
Prescott, W. G., "
Prescott, William G., Quincy.
Preston, George H., Boston.
Preston, John, Dorchester.
Pringle, C. G., Charlotte, Vt.
Proctor, Thos. P., West Roxbury.
Prouty, Gardner, Littleton.
Putnam, Joshua H., Brookline.

Ramsay, A. H., Cambridge.

Rand, Miss E. L., Newton.
Rand, E. S., Boston.
Rand, E. S., Jr., Dedham.
Rand, Oliver J., Cambridgeport.
Rayner, John J., Lexington.
Reed, George W., Kingston.
Richards, William B., Boston.
Richardson, C. E., "
Richardson, Geo. C., Cambridge.
Robbins, Nathan, Arlington.
Robeson, W. R., Boston.
Robinson, John, Salem.
Robinson, J. H., Dorchester.
Rogers, John H., Boston.
Ross, Henry, Newton.
Ross, M. D., Boston.
Ross, Waldo O., "
Russell, Walter, Arlington.

Sampson, G. R., New York.
Sanborn, Amos C., Cambridgeport.
Sandford, O. S., Cordaville.
Sargent, Charles S., Brookline.
Sargent, Ignatius, "
Sargent, Turner, Boston.
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EXTRACTS FROM THE BY-LAWS.

SECTION XXVI. — Life Members.

The payment of thirty dollars shall constitute a Life Membership, and exempt the member from all future assessments; and any member, having once paid an admission fee, may become a Life Member by the payment of twenty dollars in addition thereto.

SECTION XXVII. — Admission Fee and Annual Assessment.

Every subscription member, before he receives his Diploma, or exercises the privileges of a member, shall pay the sum of ten dollars as an admission fee, and shall be subject afterwards to an annual assessment of two dollars.

SECTION XXIX. — Discontinuance of Membership.

Any member who shall neglect for the space of two years to pay his annual assessment shall cease to be a member of the Society; and the Treasurer shall erase his name from the List of Members.

The attention of Annual Members is particularly called to Section XXIX.

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